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J. P. Thorne, M. D., and J. V. Stevens, M. D.
Editors

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INTESTINAL BACTERIA

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

There are included in the colon group of the intestinal bacteria a large number of organisms possessing marked similarities in structure, being practically identical from a morphological standpoint. When it comes to habits, however, we may separate them into three well-marked groups. At one end of the series stands the colon bacillus, an organism having considerable chemical power, shown by its ability to coagulate milk, form indol from peptone and produce acids with gas from carbohydrates. At the other extreme stands the typhoid bacillus, which has none of these properties. But it has to a large degree the power to produce disease, which the colon bacillus at the other end has not, at least not ordinarily. Between the two is the intermediate group, and as we pass from colon to typhoid through the intermediates, we find a gradual loss of the chemical instinct, as we may call it, with a corresponding increase of the pathogenic power, which finds its apex in the typhoid bacillus.

It is not probable that the true colon bacillus ever becomes virulent as long as the intestinal tract is in a normal condition. We say normal, if the presence of much waste material can be considered normal. Be that as it may, as long as the bacillus has plenty to do in the line of clearing away waste materials it usually behaves itself. If disease of the intestine, either structural, such as strangulation, or functional, as imperfect digestion, resulting in lack of end-products, makes its appearance, virulence usually results.

Its habit of leaving the intestines and penetrating the tissues after death is probably due to the same reason—lack of useful employment.

Adelaide Ward Peckham in the Journal of Experimental Medicine, Sept., 1897, says regarding the colon bacillus:

"Its first force is spent upon the process of fermentation, and as long as opportunities exist for the exercise of this function the affinities of this organism appear to be strongest in this direction.

"Moreover, the contents of the intestine remain acid until they reach the neighborhod of the colon, and by that time the tryptic peptones have been formed and absorbed to a great extent.

"During the process of inflammation in the digestive tract a very different condition may exist. The peptic and tryptic enzymes may be partially suppressed. Fermentation of the carbohydrates and proteid foods then begins in the stomach and continues after the mass of food is passed on into the intestine. The colon bacillus cannot, therefore, spend its force upon fermentation of the sugars, because they are already broken up, and an alkaline fermentation of the proteids is in progress. It also cannot form peptones from the

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original proteids for it does not possess this property, and unless trypsin is present, it must be dependent upon the proteolytic activity of other bacteria for a suitable form of proteid food. Perhaps these bacteria form an albuminate molecule which, like leucin and tryosin, cannot be broken up into indol, and thus there might be caused an important modification of the metabolism of the colon bacillus, which might have either an immediate or remote influence upon its acquisition of disease producing properties, for our own experiments indicate that the power to form indol, and the actual forming of it, are to some extent an indication of the possession of pathogenesis."

It might be added to this able exposition, that in all cases falling under our notice, where there was blood in the stools and other unmistakable evidences of intestinal inflammation or ulceration, the colon bacilli isolated had lost the power to form indol from peptones. The conection is significant, and as Parker says, so long as this organism is supplied with sufficient material to indulge in its inborn trait of indol formation, it will probably remain non-pathogenic. Take away these opportunities, and for lack of something else to do, it becomes pathogenic. The old proverb about Satan finding some mischief for idle hands to do would seem to apply with full force here.

Most of these cases showed marked improvement after treatment by autogenous vaccines prepared from their colon bacillus.

We would then seem to be confronted by a most peculiar proposition. As the great majority of people habitually over-indulge in proteid food, there is always a large excess of unabsorbed peptones present in the bowel. Nature seems to have provided a remedy for this by installing the colon bacillus for the purpose of removing these excessive peptones. If now the supply of peptones fails, either through the patient refraining from a protein diet, or by failure of the peptic or tryptic ferments, the bacillus is left idle and, like many humans in such a case, become mischievous.

Thus, what seems originally a wise provision of nature to meet an abnormal condition, becomes a menace when this abnormal condition is removed.

The intermediate group are all more or less pathogenic. They may be divided from their clinical manifestations into four branches, which we may call the meat poisoning or Gartner branch, the pneumonic or psittacosis branch, the paratyphoid branch, and the dysentery branch.

The first of these contains the bacillus enteridis of Gartner. The symptoms are produced by eating meat from an animal infected by the bacillus, and are due both to toxins produced and the invasion of the body by the bacillus itself. This bacillus can ferment glucose and coagulate milk, but these seem to be its only chemical properties.

The second branch of which the bacillus psittacosis of Nocard is the type, produces a peculiar infectious disease of a pneumonic type, traceable to infection from diseased parrots. This organism can ferment glucose but does not coagulate milk.

The paratyphoid bacillus, representing the third branch, produces symptoms closely resembling typhoid, but milder and of shorter duration. It differs, however, from the true typhoid bacillus by its power to ferment glucose, and in not being agglutinated by typhoid serum.

The dysenteric branch has lost almost all chemical ability. Two types may be distinguished, one still possessing the power to ferment maltose and mannite, the other only mannite. No other chemical traits are shown.

It will be seen that, as before stated, as chemical activity decreases, the pathogenic power increases, until the typhoid bacillus is reached, which pos-

sesses no chemical power whatever, if we except a trace of acid formation in milk.

To summarize then, if a bacillus be isolated from the stools of an individual, which, while conforming in most respects to the colon type, shows more or less loss of chemical powers on artificial media, such as failure to produce indol, or deficient fermentative ability, we must expect that the organism is on the road to pathogenesis, if not already there. And while it may be somewhat radical to suggest that all the intermediates, possibly even the typhoid bacillus, may originally have ben harmless scavengers, and from failure of material for any reason, have turned pathogenic, such a thing is not impossible. Bacteria have a great faculty of adjusting themselves to circumstances, and just as many a human being is driven into outlawry by want, so they may become pathogenic when their food supply fails.

It would be very advisable, therefore, in all cases of obscure intestinal symptoms to make a careful study of the various bacteria that may be isolated from the stools. From their behavior on artificial media a very good idea can be formed as to their tendency, which is either along normal chemical lines, or towards pathogenesis, in which case their loss of chemical instinct will show in the artificial cultures.

In such cases it will do no harm and may do a great deal of good, to stimulate the production of antibodies in the patient by the introduction of dead bacteria in the shape of vaccines, which should in all cases be autogenous, even where two bacilli seem identical. Only in this way can comparative immunity from the irritation engendered by their presence and secretions be secured. And if we keep the bowel clear of waste material, thereby removing their means of sustenance, and at the same time make active warfare on them by means of antibodies, they must eventually succumb, and the intestinal tract will them assume a really "normal" condition.

The following table represents, as nearly as is possible with the present-state of our knowledge, the various biological characteristics of these bacteria. There is a great difference of opinion among authorities as to some of their properties, and further research is needed in a great many respects.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

A Wisconsin, James Burke, contributed to the Atlanta Journal-Record for May a paper of unusual significance. After being obscured for many years by the brilliant development of surgery and other mechanical methods, therapeutics is beginning to attract attention. This indeed was inevitable from the advance of surgery itself; for as the technic became perfected the study of the physiologic aspects followed as the only possible opportunity for further advance. The use of drugs before operation to render it safer, lessening the perils of anesthesia and preventing the complications following, and to relieve these, was added as an essential feature of surgical technic.

By the aid of the laboratory it was sought to render the operator forewarned as to the dangers that might present before, during or after the operation.

The next step must be to prepare the patient for the ordeal by such treatment as would best accomplish the purpose. Although many surgeons have not yet accepted the use of morphine and hyoscine as a part of the anesthetic armamentarium, it may be as-

serted that the success of this method powerfully influenced the hard working fraternity to study the powers of drugs. The use of physostigmine to allay intestinal flatulence and arouse the musculation from its post-anesthetic torpor, followed. The influence of fecal toxemia could not escape the notice of these acute observers, and attention to emptying the bowels before operations likewise became a step of the technical routine.

Simultaneously with the surgeons, other sections of the medical profession began to return to the study of drugs. The specialists, who had done so much to fix the powers of local applications, began likewise to study the influence of general conditions, such as this same fecal toxemia, upon the causation and course of the local affections they were treating. Any man who has been conversant with medical periodic literature must have noticed the reappearance of therapeutic articles in the journals, with increasing frequency.

In two respects, however, this renaissance of drug study differs from that of two decades ago. One is the total disappearance of the commercially inspired article, dealing with some "ethical" nostrum, and lauding it preposterously for the manufacturer's benefit. That these should ever have found a place in our journals evidences the low state of really ethical standards. Nowadays no paper advocating a proprietary could find a printer, and if it did, nobody would read it.

The other point of difference is more momentous. The drug therapeutics now discussed is quite another matter from that of the past. Our weapons are different, so much so as to indicate a revolution in drugs as radical as the departure from the neolithic stone axe to the tools of metal. The prescription with the many ingredients is growing rare; the single active principle is replacing the crude drug with numerous antagonistic principles, just as the pure chemical replaced the cinnabar, calamine and tar of our fathers. Instead of advocating the merits of a combination for one or many diseases, we treat of a pure principle as affecting the bodily functions, and scrutinize many diseases to detect the functional disorder this one remedy corrects.

Dr. Burke's paper is an excellent illustration. He modifies the action of cannabis by adding veratrine for delirium, hyoscine for insomnia, menthol for pain, hyoscyamine for neuralgia, acetanilid for headache, or cicutine for motor restlessness. So also the influence of acidosis is discussed and the effects of lime and magnesia and their biochemic association in the blood. We no longer look upon disease as a demoniac possession, or as arising necessarily from extrinsic causes. We look to deranged physiology for the disease, and attribute this to causes arising within the body in the vast majority of cases. Even in maladies of infectious origin we study the bodily conditions that render the bacterial or plasmodial invasion possible. For the microbe is omnipresent. Every atom of our bodies swarms with his waiting hordes, ready to effect a lodgment whenever the vigilance of the defenders falters. Let the nourishing blood's stream be contaminated with a strain of fecal toxins, depressing the leucocytes and epithelium, and the opportunity is swiftly seized.

Here we see the harmony between matters within our bodies and the conditions presented by the outside world. Darwin said that there was no place where an organized creature could win a living, but that several competitors were struggling for it. A coral reef over which break the waves of ocean, finds the coral builders, fish, birds, aquatic semiaquatic, and terrestrial plants, each struggling to make good its hold.

We see therefore that the new therapeutics brings us back to the study of the patient as an individual. His derangements of physiology interest us more than the special malady that he presents. Precise recognition of bodily disorders requires similarly precise remedies, and it is this that is consigning the ancient prescription to the scrap-heap. Altogether "de world do move."

The prosecution of the Pure Food and Drugs Act has apparently reached a point where the law is threatened with obsolescence for want of material to work upon. Dr. Wiley announces that "vinegar made from dried apples, chops, skins and cores is not entitled to be called cider vinegar." Presumably all more deleterious and obvious adulterations have been disposed of and the above item indicates the closeness with which the field is being gleaned. A suggestion: We note the Polyadvertisements of the Quaker Oats Company continue to appear while there is no proof or reason to believe that all the stockholders of that company are members of the Society of Friends, or that all the oats is raised by members. Why then "Quaker" oats? Referred to Dr. Wiley.

DEPT. OF SURGERY

By John Dill Robertson, B. S., M. D.
Chicago, Ill.

THE SURGICAL TREATMENT OF EPILEPSY.

A certain percentage of epileptic patients may be benefited, or even cured, by surgical intervention. While this number must of necessity be small, not exceeding 5 per cent., even results as meager as these, will be desirable rather than that all the patients should remain in the incurable class. The cases which are amenable, at least in part, to surgical treatment may be grouped as follows:

1. Those arising from some remote peripheral irritation, such as an adherent prepuce, and irritable cicatrix, or a necrotic bone (reflex peripheral irritative epilepsy).

2. Those due to direct traumatism of the skull (traumatic epilepsy). In this group will be included depressions and splintering of the inner plate of the skull; osteomata and bony projections originating at the site of an old injury; chronic meningitis with thickening from inflammatory caudate; arteriovenous aneurysm; and cysts developing from meningeal hemorrhage.

3. Those due to gross pathologic changes in the brain cortex, as tumorous formations and cortical sclerosis (Jacksonian or focal epilepsy).

In order to determine an old surgical history, it is important that the previous history of the patient be carefully investigated. It is just as well, however, that not too rosy an outlook should be given in any case. If it is possible to remove absolutely the cause or irritation in any given case a cure will be effected. The so-called idiopathic or essential epilepsy is removed entirely beyond the pale of operative interference. Cases of traumatic origin give the greatest promise of success, but even these are not altogether cured by operation in many instances. Frequently there will be noted a temporary alleviation of the symptoms. The convulsive seizures may cease altogether for a few weeks or months, only to reappear, it may be at less frequent intervals. The temporary cure in these cases must be attributed to the shock of the operation or to the action of the anaesthetic upon the central nervous system. Epilepsy beginning in infancy is probably essential in nature and not amenable to operation. In traumatic cases

the best results are obtained by early operation before the habit, or status epilepticus, is established.

The operative measures should include the excision of irritable scalp scars; the removal of fragments of depressed bone or bony exostoses springing from the inner plates of the skull; the removal of spiculae of bone or other foreign bodies which might be found resting on or within the cerebral cortex; the removal of old clots or of portions of chronically inflamed and thickened dura mater; excision of portions of irritable cortex; and anything else which might be indicated at the time of operating: In other words, anything which might fill the role of an etiologic factor should be removed. This may or may not effect a cure, but it is a step in the right direction. Jonnesco has, it would seem with reason, advised the excision of the superior and middle cervical sympathetic ganglion in certain epileptic cases, notably those in which the convulsive seisure speedily responds to inhalations of amylnitrate. In epileptics who complain of more or less constant headache,, indicating increased cerebral tension, an exploratory trephining may give relief. This may be tried even in cases of essential epilepsy. As Da Costa has noted, in certain cases of focal epilepsy in which no apparent cause can be found it may become justifiable to extirpate the motor center giving origin to the epileptic attack. There are some well recognized principles that should be borne in mind, thus:

1. Jacksonian epilepsy due to injury in the motor region is more amenable to operative interference than that following an injury in the sensory area.

2. Jacksonian epilepsy secondary to injury of the frontal region of the skull rarely is benefited by operation.

3. In traumatic epilepsy it is proper to trephine first over the site of injury, and then, if necessary, over the irritable cortical center.

4. After operating for epilepsy it is unwise to pronounce the patient cured until five years have elapsed without a return of the symptoms.

5. Many ceses of traumatic epilepsy could doubtless be prevented by prompt and careful treatment of all head injuries at the time of their occurrence.

6. Post - operative adhesions, which may themselves result in irritative epilepsy, may largely be prevented by the judicious use of pieces of sterilized gold silver or aluminum foil, introduced beneath the dura.

ACUTE ABDOMINAL PAIN FROM A SURGICAL STANDPOINT.

By Louis Thexton, M. D., Chicago, Ill.

Acute infections of the peritoneal cavity usually arise from three sources, viz.: the fallopian tubes, the vermiform appendix, or the gall bladder. Infections from the alimentary and urinary tracts occur but not so frequently.

Only one of these routes is open, i. e., via the fallopian tubes, the other two must be through a closed membrane. In any case the infection may be localized and in every case there is no doubt an effort, on nature's part, to prevent dissemination. In every case there is more or less disturbance of the general peritioneal cavity, and in the effort to prevent the spread of infection the great omentum plays an important part. Well directed surgical skill and knowledge, if sought at the proper time should be able, with nature's help, to effectually tide over almost all infections from these sources. Too aggressive or too dilatory surgical interference is often worse than none. It has come to the observation of surgeons of any extended experience, that many cases of acute infection properly taken care of by the great omentum, have been ruthlessly disseminated, and general peritionitis resulted by the too

aggressive surgeon. It is also well known to the general practitioner that many cases of simple colic have been laparotomized, only to find everything perfectly normal. The danger from such operations, the loss of time to the patient, and the resultant scar and perhaps adhesions should be sufficient to deter conscientious men from such proceedures without the most careful, exhaustive examinations. Severe abdominal pain is too often made the sole reason for abdominal section. The patient is hurried to the hospital, the surgeon asked to operate at once; the patient on account of the pain gives his consent and without time for the proper examinations to confirm the diagnosis, the operation is performed. I think the time is coming when no well-trained, conscientious surgeon will allow himself to be thus driven. Every patient should be allowed time and every surgeon should take time to eliminate the possible mistake of doing an unnecessary operation. The symptomatology varies so much in patients that the attempt to lay down rules of procedure on paper is often worse than useless.

One man writes that we must always wait, and therefore his disciples simply follow that part of his teaching and let their patients die. Another writes that the time to operate is now, and his equally zealous followers plunge into every case of abdominal pain as if nature had not and could not help any in the cure of the affected part.

Can we not abandon these rules so emphatically laid down that they have become a part of the "little knowledge" which the laity has seized upon, which adds to the dangers? Every case should be made a study by itself. For a man who is called in twenty-four or forty-eight hours after a local infection has begun, to find a distended abdomen, lack of peristalsis, rapid pulse, shallow breathing and slight yellowish tinging of the sclera, and at this stage to advise immediate operation, is to my mind either lacking in judgment or so bound to the rule of his teacher that his surgical skill avails him nothing. On the other hand given a patient with acute pain, vomiting, rising pulse and temperature with an abdomen flat but rigid and tender over a distinct area, the surgeon who does not relieve such a case at once, fails to do his duty. My plea is that each case must be put in a category by itself, and the time to operate or not to operate must be determined by the condition of the patient at the time of examination. In the early stage of abdominal pain we must distinguish colic pain from inflammatory pain. This I believe can be done in ninety-five per cent. of cases. No case of colic that I have seen causes the characteristic localized rigidity of muscle, the thready rapid pulse and usual rise of temperature which are so universal in cases of infection, and no case where symptoms present can be ascribed to colic should be operated hastily. Even gallstone and renal colic can afford to wait. My attention has been called more particularly, however, to the necessity of waiting, in delayed cases of infection, where the surgeon has not been called at the beginning and what might be termed secondary symptoms have developed. By secondary symptoms I mean, the rapid pulse, furred tongue, anxious expressions, yellow sclera, distended belly and lack of peristalsis in the intestines with hiccough and indifferent vomiting. I such cases I believe gastric lavage, rectal enema, total abstinence from food and drink with such stimulants as are necessary, administered hypodermatically will save many more lives than immediate operation. I do not advise morphine in these cases and I always give strychnine. I believe nature has always done her part in walling off the infected area and by the time the strychnine gets in its work on the heart and bowel mus-

cle there is but little danger of spreading it to the general peritioneal cavity. It has been most surprising to me to find such an enormous amount of faecal matter discharged from such distended bowels after action has begun. Ten or fifteen large bowel movements frequently follow before such bowels are emptied. Even after this has been accomplished I prefer to wait for the restoration of the nearly normal pulse before operating. I then make the operation in the very briefest time possible and with very little anaesthetic.

To sum up:

First: Abdominal pain alone is never a sufficient indication for operation.

Second: A surgeon should always be able to distinguish between colicky pain and inflammatory pain, or wait until he can do so.

Third: No rule can be made on the "time to operate" in abdominal surgical affections.

DOCTOR and the JOURNAL

By GEO. L. SERVOSS, M. D.
Fallon, Nevada

The medical journal, be it of the organization or independent type, is of vast service to the doctor. It is to be admitted that probably there is much published in all journals which is practically worthelss, but on the other hand one cannot con a single publication of this sort but that he finds at least one article or item of worth. It may be some very little thing, hidden way back in the miscellaneous column, or it may exist in one of the advertising pages, but it is invariably there, and he who carefully goes through every journal coming into his hands is usually the gainer thereby.

It is contended by some doctors that it is a waste of time to even scan the journals. That it is much better to rely wholly upon annuals. Such men contend that they obtain only the best from the latter and they they save time through heir inattention to the journals. This latter may be true, and undoubtedly is, but the annuals do not, as a rule, publish many of the little things which appear from week to week, or month to month in the journals. In medicine, as in every walk of life, it is the little things which count very largely.

It is not necessary that anyone read every article published within the pages of the journals coming under his observation, any more than he should read every word of his morning paper, but he should learn to scan the latter as he does the former, and thus form a conclusion as to what he will, and what he will not, read.

As with the daily paper, the way to read the average medical journal lies in first going over the titles as he would the heads of the daily. By so doing one, after a short practice is able to tell at a glance that which will be of interest and value to him. Not only should he scan the reading pages, but the ads as well, for in the latter he will frequently find things of vast value. Our first knowledge of the newer remedies is first gained from the advertising pages; at times long before any mention of them is made in the literary pages.

Not only is it of value to the doctor to read many journals, but not infrequently does the receipt of them create a good impression with those with whom he is associated. Not long since a friend of mine told me of an instance coming under his observation, which impressed this very point upon my mind. He said that a stranger, coming to the town in which he was living, and requiring the services of a doctor went to the postmaster and asked which man in town received the most journals. Upon receiving the desired information, the gentleman consulted with the doctor in

question. When asked why he asked for such information, and subsequently visited this particular doctor, his reply was, "That the doctor who read the most journals undoubtedly gained something from each publication, and consequently was more liable to be the best posted man in the community, professionally." My friend informed me that this particular doctor did not enjoy the most lucrative local practice, partially because he did not parade his knowledge and partially because of the fact that he did not "rustle" for practice. He said that, upon engaging the doctor in conversation, it soon became apparent that he was the best posted man in the town. The man enjoying the largest practice in this same town, was one who depended almost wholly upon the annuals for his information, and upon interviewing him my friend found him sadly lacking in information relative to many of the little things which had been published after the appearance of the annuals.

Not only should the doctor read the journals, but in addition he should add his mite to their sustenance, not only in the way of subscriptions thereto, but by contributions. There is not a single doctor, be he of the city or the country cross-road, but who encounters matters which would be of interest to the profession at large, and he should make known his findings through the medium of the journal.

Not only does the doctor who writes for the journals frequently bring points of value before the sight of his brothers, but by writing he is continually broadening his own scope of view. In the beginning one frequently finds it difficult to express himself in written words. In fact, he does not know just what to say, or just how to say it. However, as he progresses, the matter of writing becomes one of greater ease. In that he may become master of the situation and a fluent writer, he gives greater attention to like work of others, and not infrequently does he go outside the realms of medicine in perfecting himself in matters purely literary. From the magazines he picks up his ideas of style. From the daily comes terseness of expression.

Much of medical writing is, to a greater or less extent, a matter of compilation, for here, as elsewhere, there is but little of anything new, but he who writes should learn to express himself individually and not through the words of those whom he accepts as references. Everyone sees something which has failed of notice by those considered authorities, and despite the fact that the writer may quote largely, it is invariably possible for him to combine with such quotations much which is original.

Not only does writing for the journals gives a person a broader idea of his professional subjects, but in addition, it not infrequently takes him out of a rut and adds energy to all of his efforts. The man who writes largely of things therapeutic wants to see that what he writes is the truth and he is constantly endeavoring to come in contact with cases wherein he may prove this truth and by so doing he invariably broadens his practice. His writing has brought him in closer contact with his work and, as a rule, he becomes a better doctor thereby.

Until very recently it has always been contended that the young doctor has but little, if any right, to force himself into medical literature, but today we find some of our brightest writers among the ranks of the younger men. The young man of today has greater opportunities of observation than had his father of yesterday, and consequently is able to form individual ideas much earlier and there is no reason why he should not be allowed to promulgate such ideas through the medium of the journals. It is said that we "may learn from the mouths of babes" and this surely applies in medicine today.

The young man should begin writing as soon as he launches in practice; before if he happens to note something of interest to himself, and which he cannot find in his books.

No doctor, however, should write a single line, unless he has something to say. In addition he should learn early to say what he wants to say in the fewest possible words and in the plainest language possible. The day of the highly technical article is waning. The busy doctor wants little practical things, told in the fewest possible words. He has not the time to wade through a long compilation, much of the subject matter of which is an old story to him. Like everyone else, he is on the outlook for something new; something which will add to his knowledge and he wants that "boiled down."

Much fault has been found with the doctor who writes for the independent journals, but there is no valid reason for this. In reality it is in the journal of this class that we find many of the latest ideas expresesd. It is said, by some, that it is too easy to get within the columns of the independent journals. This may be, in a measure, true. As a rule, in order that one may have an article published in an organization journal it must first have been read before from one to three societies, and then await posibly months before space may be given it in the journal. In many instances this lapse of time between the writing and printing of the article interferes very largely with its efficiency. Not infrequently does the paper deal with something new in connection with an idea which has been recently brought forth. If such a paper is not published very shortly after having been written, or read, the subject may have been thoroughly threshed out in the meantime; in some instances even, subsequent study and observation has shown the idea to be wholly wrong. Contributions to the independent journals, however, are not subjected to this sort of censorship, but are published because the editor of the journal considers them worthy. In consequence of this, such articles, if having any bearing on anything new, strike while the iron is hot, and thus exert a much greater influence than do those which may appear months or years after having been written. Thus we see that, while not under society censorship, the independent journals are undoubtedly of greater worth to the practitioner than are those of the organization.

It is a recognized fact that the major portion of our text books are antiquated very soon after their publication, to a certain extent, in that new observations frequently expose fallacies in such publications. Because of this it is absolutely necessary that we augment our knowledge, gathered from such sources by adding thereto the later ones appearing within the journals.

Regarding the annuals, I do not wish to be considered as contending that they are valueless, as they are far from being so. The main trouble with them lies in the fact that their publishers are prone to print highly technical stuff and rely upon men of national, or international repute for their material. This is done largely to bring about increased sales, as it is much easier to quote a well-known writer than one of obscurity, as a contributor, but is does not necessarily follow that the annual is any better therefor, as it frequently happens that such writers depend more largely upon references than upon personal observation in practical work for their material. The annuals have their place but they are no more valuable than in the current journal.

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Dr. J. A. Burnett quotes "Potter" as saying that, "Quassia is fatal to flies and fishes" and asks how is the best way to use it.

X-RAY CONJUNCTIVITIS

By H. C. BENNETT, M. D., M. E.
Lima, Ohio

The more we study and experiment with X-rays, the better we know how to apply them, and learn their uses, limitations and good and bad effects.

All are, or by this time should be, aware of the dangers of too long or frequent exposures causing dermatitis, or the wrongly so-called X-ray burns. This effect can never be accurately limited and has been known to cause necrosis to the extent of requiring amputation of hands and arms, and in several instances paralysis, and in the case of Mrs. E. Flieschman-Aschheim, of San Francisco, who was an extensive radiographer, the injury resulted in death.

Other instances are known among X-ray operators and patients exposed to the X-ray where asperism and sterility resulted. Usually however this effect is only transient.

Attention has been recently called by several widely separated operators to the malevolent effects of the X-ray upon the eyes of the operators, and it is this fact that prompts me to report the effect of the rays on the membranes of my own eyes, and for want of a better name, I will term the trouble X-ray conjunctivitis.

It may be only an idiosyncrasy, but I have found by bitter experience that my skin, and especially the conjunctivae of my eyes are very susceptible to the action of the X-ray. Like many other facts in electro-therapeutics, which have been learned in the bitter school of experience. I have found that there is no danger to the eyes from the rays.

We pioneers in this specialty, having no teacher but practice, blaze the way and must warn others against our mistakes. I have been doing much experimental fluoroscopic and radiographic work, ever since the X-ray discovery. I soon noticed that after exposure to the ray, the skin of my hands and face would itch and tingle, sometimes to the extent of smarting and burning. These sensations were noticed within a very few minutes after the exposure, and would persist for several hours, but by being careful not to submit to long exposures, I never had any dermatitis or so called burns, on myself. Only one or two of the many of my patients treated by the ray, ever made mention of these feelings, although I produced dermatitis in some instance intentionally, and I have used the rays with much benefit in many superficial diseased conditions.

My great annoyance was due to the irritation to the eyes. For a long time I never suspected the cause, and only accidentally was my attention called to the fact that the conjunctivitis was due to the X-rays. I suffered more or less all the time with my eyes while working with the fluoroscope and tubes. What first attracted my attention to this effect was, when on my return from a lake trip, during which my eyes gave me no trouble, I had occasion to test a dozen new tubes in order to mark the comparative degrees of vacuum and penetration. This took my spare time for about a week, after which I had no occasion for X-ray work for about ten days, when suddenly a terrific inflammation set in, and kept me in agony for nearly a month, during which time I could do no close work at all, such as reading and writing. I could think of no cause but the X-ray. After this I had occasion to repeatedly verify my conclusions, so that I now know what to expect when I am exposed. Before that time I had attributed the eye trouble to close study at night, prolonged use of the eyes, wind, dust, bright light, sunlight on the snow, etc., but none of these causes will produce the effects of an X-ray exposure.

I might say that I wear spectacles all the time, for astigmatism, and have worn glasses while doing the X-ray work, so that the pebble lenses offer no

obstruction to the ray, or in any way mitigate the effect. Now I always use leadglass spectacles, in addition, but I have been forced to abandon X-ray work almost entirely. Not having been exposed for several months, my eyes have not bothered me, although I use them excessively and at nights, until the last month.

On February 24th I was consulted by a man who brought a boy, with a history of having stepped on a fine needle which ran into the sole of the right heel, and broke off.

In order to be sure if there was a needle there, and to locate it definitely before attempting its removal, he brought the boy to me for a fluoroscopic X-ray examination. It was a cold rainy day, and the static machine was not generating to its full capacity, and the vacuum of the tube had raised, so that it required about fifteen minutes manipulation of the tube, and work around the machine, and several peeps into the fluoroscopic, to get the desired penetration, to detect so fine a needle. Then I probably spent five minutes more in the examination and in marking the location of the needle, and showing it to the father. Altogether the tube was not excited over twenty minutes, and my exposure, direct, not over three or four minutes, but exactly ten days later, on March 6th, I began to develop the typical conjunctivitis, which rapidly increased in severity and persisted without any abatement till the 20th of March, after which it gradually subsided until at this writing, April 10th, I am feeling comfortable again and there is but a slight discomfort in the eyes.

The congestion was general all over the ocular and palpebral conjunctivae, with photophobia, lacrimation and swelling, with intense pain all the time. I have tried nearly every collyrium known. Cold or hot applications give no relief, whatever.

The only temporary relief I can get during these attacks is from the local instillation of a mixture of cocaine hydrochlorate, one grain, and solution of adrenalin chloride, thirty drops, in an ounce of water. A few drops of this in each eye relieves the congestion and pain for a hour or so only. When suffering with these attacks I always carry this mixture, and a dropper, with me, and I sometimes have to get up at night three or four times to use this remedy, in order to get relief enough to sleep.

This preparation causes increased intra-ocular tension and distress in the eye ball, and causes general headache, but is far preferable to the intense pain and annoyance of the conjunctivitis.

For this reason I have been forced to turn away nearly all X-ray work, and think I shall abandon it altogether in the future. During the past few years I have been associated with a number of other operators, who never suffered any inconvenience whatever. It seems to make no difference what kind of tubes or scopes we use, the results are the same in my case. The different degrees of vacuum of the tubes all have the same effect. I have a half-dozen fluoroscopes both with the calcium tungstate and the platinum bariocyanide screens and they all act the same.

It might be of interest to those who say that fluoroscopic screens deteriorate with age, to state that I have both kinds of fluoroscopes, which have been in use for several years, and are still in good condition. My best platinum 8x10 scope purchased July 10th, 1899, still gives me good definition.

I have always made it a rule to keep my fluoroscopes away from the dust, and in a dry, cool, dark place. I have seen scopes of others, who were careless with them, which were worthless after a year's use, but I notice that such operators set the scope down with the open end up, and usually in a place where the light and moisture can get them and dust settles on the screen.

I hope that the recital of my disa-

greeable experience may enlighten others who may be similarly afflicted and not know the reason, or be a warning to others to avoid the chance of such results as far as possible, and thus save themselves loss and suffering.

"The Optician" calls attention to the fact that an inflammation known as electric ophthalmia, is produced by even exposure of an unprotected eye to ultra-violet rays of very short wave-lengths. Fortunately these rays are absorbed by glass, so that the eye can easily be protected against them. The question has recently been asked whether the ultra-violet waves of greater wave-length, which are not absorbed by the ordinary glass, and which are more abundant in the radiations emitted by electric lamps and incandescent gas mantles, than in the light furnished by old-fashioned gas burners and kerosene lamps, may not also injure the eyes.

Dr. Schanz, of Dresden, attributes opacity of the crystalline lens and senile cataract to the agency of these rays. As sunlight and diffuse daylight, to which the human eye has completely adapted itself, and which may, therefore, be regarded as the normal illumination, likewise contains the longer ultra-violet waves, the important question is whether the eye receives such waves more abundantly from the modern powerful artificial sources of light, arranged in the usual way, than from daylight of equal illuminating power.

Dr. Voege, of Hamburg, has proven by numerous comparative tests that ultra-violet rays are far more abundant in daylight than in light of equal intensity furnished by incandescent electric and gas lamps, and most electric arc lamps. An eye looking at an arc lamp receives fewer ultra-violet waves than it would receive from the rays of the sun reflected to it by a bit of polished metal at the same distance. Hence the modern powerful lamps are not injurious to the eye if certain precautions which are required for the visible as well as for the ultra-violet rays, are observed.

The powerful source of light should not be placed too near the eye, and an unnecessary intensity of illumniation of the desk or work table so that the dazzling incandescent source of light is not directly visible. The best method of illumination is the indirect system, in which the rays strike a white ceiling and are thence irregularly reflected to the table, producing an illumination very similar to that of diffused daylight. Unshaded incandescent gas lamps should be inclosed in opal or ground glass globes. For work with arc lamps and other lights of great photographic intensity, spectacles made of glass which possess an especially great power of absorbing ultra-violet rays should be employed.

REPLY TO DR. H. C. BENNETT, LIMA, OHIO.

No one can object to criticism if it is amiable, and respectful. The spirit manifested by the distinguished Specialist is calculated to repel, rather than to persuade. I don't profess to be an authority on X-ray, nor electrification; but I stil assert from a general practitioner's viewpoint, that either agency, as curative in a large class of nervous functional, and organic lesions, is not the success it is claimed to be. I concede that it is an important adjunct to systemic treatment, in many ills; but the system must be treated directly. I have doubts of the efficacy of electricity, per se. My wife lost the use of her arms two years, and was treated by faradic massage twice a week during that time; but all of that time she used active constitutional treatment. I think the electricity was a good nerve tonic; and with Dr. Bennett's treatment she got entirely well.

D. L. Field.

Jeffersonville, Ind.

RECTUM EXAMINATION

CHARLES J. DRUECK, M. D.
Chicago

The object of this paper is to bring before its readers the essentials of an examination of these parts and to assist the physician in making an intelligent diagnosis of his patient's ailment, instead of trusting to luck and a "shotgun" prescription in the form of an injection or application. Many general practitioners overlook details and make but a cursory examination of patients suffering from rectal disorders. I have had many such patients report to me whom the doctor had not even examined.

Before we can diagnose or intelligently treat pelvic disturbances, we must learn to inspect and palpate not only the exterior surfaces, but also explore its hollow cavities. A thorough rectal examination not only considers the coats of the last few inches of the alimentary canal, but the digital exploration determines the condition of all the organs and structures within the true pelvis. In gynecology the rectal examination confirms the vaginal findings, and in diagnosing conditions in the male pelvis it is the only method of actually feeling the parts in question. We cannot go into details here, but doubtless every physician has cases at present where the weight of what has been said will be appreciated. The rest of this paper will be limited to the findings in and pertaining to the rectum; but I urge the reader to remember, when exploring these parts, that all the pelvic organs are bound together by one grand nerve plexus, and nowhere else in the body are there so many nerve impulses. Freqeuntly a robust man is invalided by direct or reflex disturbances and very little pathological change will be found. The practitioner who wishes to retain the confidence of his patients must examine the rectum ac carefully as he would any other part of the body, for the time is past when patients will be satisfied with a placebo. All modern text-books on surgery find it necessary to incorporate a chapter on diseases of the anus and rectum.

Rectal diseases are always progressive, and an early diagnosis may mean a slight operation and no absence from business, while later the condition may be so aggravated as to confine the patient to his bed for weeks or months. Almost every patient who realizes he has rectal trouble informs his physician that he is suffering from piles, and, I am sorry to add, many doctors accept the patient's diagnosis and prescribe without ever examining the parts.

The symptoms of rectal abnormalities sometimes draw the patient's attention at once to this particular organ, but again because of the intimate connection of the rectum and other pelvic and abdominal organs, the symptoms may be so obscure or the onset so insidious that reflex disturbance elsewhere is first complained of, and the patient is treated for disease of some other organ. While the symptoms may refer in general to this part of the body, they do not indicate the specific disease. The odor of cancer or the pain of fissure are characteristic, but they do not in any way indicate any associated condition or disease. The preliminary interrogation of the patient should be systematic, so as to cover carefully and completely the whole case without repeating. It is a good plan to let the patient tell his own story and for the physician to bring out the patient's age, physical condition and the progress of the symptoms since their appreciation, together with what ever effect they have on the general health. If pain is complained of, ascertain its character, whether it is sharp and cutting, burning, or dull and aching; and its relation to defecation, whether it occurs before, during or after the passage of the stool, and whether it is constant or intermittent; and its location, as, at the anus, within

the rectum, in the pelvis, or in the sacrum, or whether it radiates from a given point. The patient's statement that he has pain in the rectum is too indefinite to be accepted without further questioning. If there are any discharges, their nature, and the presence and the amount of blood, mucus or pus are important. The sphincters must be investigated as to whether relaxed or abnormally contracted, and if protrusions exist, whether they recede themselves or must be replaced, and whether their replacement is difficult or painful. It is important to ascertain the character of the protrusions, as smooth or nodular, hard or soft, or covered with rugae, and whether it is tender or sensitive to the touch, and if there are any ulcers present; also whether it occurs only during defecation or is continuously exposed, or can be produced at will. Any evidence in the general economy of such other diseases as anemia, tuberculosis or syphilis must be taken into consideration; and whether the patient has had gonorrhea or any urethral stricture. If a female, and married how many children or miscarriages, and was there any rupture of the perineum? Is there any uterine or ovarian pain, any vaginal discharge, prolapse of the uterus, or difficulty in urination? If a virgin, inquire as to the menstruation, whether regular, painful, scant or profuse.

The occupation or mode of life of the patient may not have been a factor in causing the disease, but it may be important in mapping out his future mode of living as to habits, environment and diet. Does he use enemas frequently? or like the proverbial Irishman, take his pipe and daily paper to the toilet with him? Does the rectum feel full after the evacuation, or is there a desire for further action? Is there a history of sodomy or venereal disease, or any family history of tuberculosis or cancer?

The examination of any case, medical or surgical, is incomplete unless we go into the family and personal history. It is often tedious and much time is wasted on irrelevant matter, but frequently it emphasizes idiosyncrasies. For convenience I have arranged all the important items of the examination in an abbreviated, but comprehensive form in my record sheet. I want to emphasize the importance of keeping these records in even the simpler cases.

It is convenient for those treating rectal cases to have a toilet adjoining the examining room, that patients may empty their bowels just before examination. When this is not practicable, and only a few rectal cases are seen, a commode, which when not in use can be screened or easily pushed aside, may be substituted. If possible a cathartic should be given the day before and the rectum washed out with an enema just prior to the examination. This procedure is absolutely necessary when the upper part of the rectum is to be examined, as otherwise, when the speculum is introduced, the field may be obstructed with feces and a thorough examination is impossible; also because the straining during defecation brings down hemorroids, polypi or prolapse, and thus assists in the diagnosis. Even with these precautions you occasionally find a case of impaction where the rectum is lined with inspissated feces. Occasionally I prefre to make an examination without this preparation, that I may find the rectum more in its customary condition, and any pus, blood, mucus, or hardened feces may be found more readily. Small protrusions or prolapses often retract within the anus when the patient walks a little, hence it is sometimes necessary to examine the patient, on the commode or just after arising, before he takes a step. All constricting bands, clothing or corsets must be removed or loosened, for they have a tendency to force the bowels into the pelvis. The bladder must also be emptied. It is often necessary to administer an anesthetic

to secure a thorough examination of all parts and to fully relax the sphincter.

Gentleness is important in making a rectal examination, as much pain may be avoided and spasm of the sphincter prevented. Very much also depends upon the skill of the examiner, because sometimes the ordeal may be very painful, and doubly so if carelessly performed. Few instruments are needed, and only such as every physician has in his case. In examining the upper portion of the rectum a speculum and good light are necessary. A speculum illuminated with a small electric lamp on a slender shank clamped into position on the ordinary speculum is the most satisfactory, but good, direct or reflected light may be used.

In regard to the position of the patient, the exaggerated lithotomy, the Sims, and the knee-chest positions each have their special advantages in particular insatnces. The ordinary dorsal, or lateroprone position is all that is needed for the lower rectum, although many prefer the exaggerated lithotomy, the patient's hips being elevated by a cushion. The knee-chest is, however, the only position that permits an examination of the higher portions of the rectum or sigmoid. The Sims position, with the thighs strongly flexed and the breast on the table, the left arm hanging over the edge, inverts the pelvis and allows the contents to fall upon the front wall of the abdomen; the lumen of the rectum tends to gap, and the mucous membrane falls away from the end of the speculum.

This concludes the preliminaries to a thorough rectal examination, and when we have covered these details we have prepared the patient and ourselves for the manual part of the diagnosis.

For the benefit of those who may wish it, I append a copy of the outline I have followed, and suggest that each case be recorded on some such plan, each history naturally requiring emphasis on its individual symptoms.

Miscarriages. Family History.
Personal history and present illness.
Stool—
- Character.
- Frequency.
- Incontinence.

Pain—
- Character.
- Relation to Defecation.
- Constant or Intermittent.

Discharges—
- Blood.
- Pus.
- Mucus.

Protrusions—
Condition of the other organs—
- Generative.
- Urinary.
- Abdominal.

Nervous System.
Examination—
- Inspection.
- Digital Examination.
- Sphincters.
- Specular Examination.
- Diagnosis.
- Treatment.

Dismissed. Condition

The examination comprises inspection, digital and instrumental examination. Inspection may reveal the conditions which produce various neurasthenic or anemic conditions. The shape of the anus is sometimes important, whether normal, protruded or drawn in (funnel-shaped), and the amount of pigmentation about the parts. Evidences of abrasions, scratches, pediculi or worms may be seen on the skin about the anus, also sign of inflammation or scars. A prolapsed rectum may be the cause of prolonged vomiting or pertussis. An ulcer, fissure or pruritis may excite rectal tenesmus and also produce a scybalous stool. Protruding tumors, condylomata, such as hemorroids, polypi or malignant growths may also be seen and their characteristics noted. Very often a distinct fullness or bulging of the anus is seen where internal hemorroids are present, even if they do not protrude. Where epithelioma exists at or outside of the anus, a small piece may be clipped off for microscopic examination without any discomfort to the patient by using

a little local anesthetic. After carefully inspecting the anus and perineum the field may be widened by gently pulling the anus open, a hand being placed on each buttock, the finger tips pointing toward the anus. If the patient bears down at the same time, a considerable portion of the mucous membrane will be everted, the extent depending on the relaxation of the sphincters. In this way the lower inch or more of the bowel may be inspected without the use of the speculum, and a fissure, fistulous opening, gonorrhea in women, syphilitic erosions, eczematous excoriations or pin-worms may be brought into view. In many instances the internal opening of a fistula is situated immediately within the external sphincter, and, in such a case, it may be seen by this procedure. During this maneuvre any tender or indurated areas may be mapped out. Fistulous tracts are easily followed up without the use of the probe. In women who have relaxed sphincters, a portion of the interior of the rectum may be everted by introducing the index finger into the vagina and pressing the rectal walls out through the anus. The presence of a discharge issuing from the anus indicates disease within the rectum; while the sunken ischiorectal fossae and retracted anus surrounded by a profuse growth of soft hair would immediately suggest malignant disease or tuberculosis within the the rectum with general systemic involvement.

(To be Continued.)

SOLANIUM CAROLINENSE

By J. A. Burnett, M. D.
Marbel City, Olk.

Most all drugs that are soluble and non-irritating that are used for general systemic effect will give better results when given hypodermically than when given by mouth. Solanum is a drug that gives far better results when given hypodermically than when given by mouth. Dr. Webb cured a case of epilepsy with the hypodermic use of Lloyd's specific medicine solanum, after the case had resisted all means including the use of solanum by mouth for three years which would control the paroxysms but not prevent them. This is good evidence of the more positive action that the hypodermic mode of application of some remedies have over other routes of administration. Solanum is used in all cases of epilepsy and the dose can be increased until it produces a sensation of dullness or drowsiness when it requires it, to get satisfactory results. It has been used in the treatment of puerperal convulsions with good results. Of course, in this condition it should be given hypodermically for quick effect. Solanum gives good results in hysterical paroxysms and many reflex nervous conditions of women. It should be more popular in female complaints than it now is especially if associated with pulsatilla and other similar agents. I have up to this date prescribed the bromides for the various nervous conditions of women and have looked on them as valuable female remedies, but I now expect to use solanum as it is a substitute for the alkali bromides without their bad effect. I remember giving a nervous hysterical woman potassium bromide in about 30 grain doses, that had been the rounds of various physicians and she praised the treatment and said I had done her more good than any one. The bromides are, of course, only temporary in action, besides depressing to the system, while solanum is often curative in action especially when given hypodermically. Solanum has been used in litanus, another condition where the hypodermic use far exceeds its use by mouth.

It is used in albuminuria in preg-

nancy but possibly much inferior to opocynum in this condition. Solanum deserves a thorough trial in menstrual epilepsy, especially its hypodermic use. It could be combined with pulsalilla if the menstrual flow was not as free as it should be. Of course in addition to this the hood of the clitoris should receive attention if elongated or adhered to the glans clitoridis. This should not be neglected in all cases of nervous derangement, epilepsy, hysterical paroxysms, etc., in women or girls as well as other matters pertaining to orificial surgery. Solanum deserves a trial in hydrophobia, both as a preventive and after the convulsions have begun. It could be used with scutellaria in all cases of hydrophobia.

There are other uses for solanum. It is a drug that deserves more investigation.

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REMEDIES FOR HYPODERMIC USE.

By J. A. Burnett, M. D., Marble City, Oklahoma.

Hypodermic medication is fast gaining ground and becoming more popular among all close observing physicians, as they know that results can be produced by giving some remedies hypodermically that cannot be obtained by any other mode of application.

I will mention a few remedies that are used hypodermically with good results.

Cacodylate of sodium is now being used hypodermically by many physicians in malarial cachexia neurasthenia certain skin diseases, leukemia, Hodgkin's disease, syphilis, etc.

Some think that sodium cacodylate is equal to "606" in syphilis when the dose is pushed to full effect. The dose for hypodermic use is from ⅜ to 4 grains. The full doses should be used only when it is increased gradually. The full doses are not repeated within three or four days unless there is special indications for it. It is in syphilis that large doses must be used. It was Dr. V. M. Griswold, of Fredonia, N. Y. (Buffalo Medical Journal, August, 1896), that first reported that quinine was a local anaesthetic.

Dr. Henry Thiboult, of Scott, Ark. (Journal of the Arkansas Medical Society, Sept., 1907), discovered that the hypodermic use of quinine and urea hydrochloride was a local anaesthetic without knowing the discovery was ever made by Dr. Griswold. Dr. Thibault deserves credit for popularizing the remedy at least, as Dr. Griswold did not seem to realize its value.

There is much literature on quinine and urea hydrochloride as a local anaesthetic and it is not necessary for me to discuss that here. The hypodermic use of quinine and urea hydrochloride for systemic effect is of great value especially to those that practice in malarial districts, but just how to give it hypodermically and the size doses to use, etc., but few know. It would require much space to tell just how to give quinine and urea hydrochloride hypodermically for systemic effect and for those interested in this I will refer them to my articles as follows, which will give full particulars: "The Hypodermic Use of Quinine and Urea Hydrochloride in the Treatment of Malaria," Physician's Drug News, January, 1911, and "The Hypodermic Use of Quinine and Urea Hydrochloride for Systemic Effect," August, 1911, Eclectic Medical Forum.

I wish to mention the above for the reason that it requires special knowledge of how to give quinine and urea hydrochloride hypodermically if it gives satisfactory results to both physician and patient.. We all know that a drug often fails because it is not used right.

Urotropin.—Seven grains of urotropin can be dissolved in 30 drops of water and given hypodermically every

four hours for diuretic effect as long as needed. It is injected in the arm or any part same as a hypodermic of morphine or other common hypodermics. The injection of urotropin causes some pain, but as reliable hypodermic diuretics are rather scarce its hypodermic use is worthy of consideration even if it causes some pain.

D. F. R. McLean, of Miss., considers the hypodermic use of urotropin of value in malarial hematuria when the kidneys are not acting as well as they should. Likely the hypodermic use of urotropin will give all the therapeutic results that can be obtained from its use by mouth. Veratrum viride has been used hypodermically in puerpural convulsions with good results.

The alcoholic solution is bad to leak out at the needle hole if not sealed with flexible collodion. At the present time hypodermic tablets of the alkaloid veratrin can be obtained on the market which will no doubt soon take the place of the alcoholic solution that was never intended for hypodermic use.

Menstrual epilepsy has been cured by the hypodermic use of passiflora incarnata. It is a remedy that no doubt would give valuable results in many female and nervous conditions when used hypodermically in full doses. It is stated that two drops of spongia tosta in ten drops of water given hypodermically every two hours will soon end the most severe case of spasmodic croup.

During the past few years much has been written for and against echinacea augustifolia. It has been very much overestimated by many writers and likely condemned too severely by others. Sepsis or "blood depravation" is where it is indicated. One writer is guided by the breath for its indications. He uses it when there is a sweet, mawkish breath. I believe his indications are good and could also include the foul cadaverous or rotten odor of the breath. Some claim the hypodermic use of echinacea is almost specific in typhoid fever but such an assertion is worthless. It no doubt is of value in some cases of typhoid fever. The hypodermic use of echinacea is of some value in diphtheria, pneumonia, peritonitis, boils, carbuncles, abscesses, syphilis, bites of snakes and the bites and stings of reptiles, etc. Considering the action and indications of echinacea one can readily see its hypodermic use can do much more than its use by mouth. There is one preparation of echinacea on the market made especially for hypodermic use.

PHYSIOLOGY OF MARRIAGE

D. L. FIELD, M. D.
Jeffersonville, Ind.

Marriage should not be consummated too early; but attachment of the sexes can hardly make its appearance too soon. Some of the happiest unions had their origin in the earliest youth,—perhaps in the primary school-room! It was once quite the fashion to advovocate early marriages; one eminent authority saying it should be so soon as the passions prompt it. If such early union could be consummated without detriment to offspring, it could never be so well for the parents! To be sure the marriage of elderly people, if it result in offspring, such would be likely to be feeble in mind and body. marriage should not be consummated before the contracting parties have arrived at maturity.

The male twenty-five, and the female twenty years old; and even then, both should be sound mentally and physically.

Physical maturity of the male does not arrive, as a rule, before he is twenty-five or thirty years old; and the female when she is twenty years old. Of course, the law recognizes

eighteen years for the female, and twenty-one for the male, as a legal age for marriage.

It takes a longer time for the bony frame to become strong and fully developed; and as to mental maturity, it may take longer,—maybe never! One author says, that for every female who marries before the age of twenty-one, there will be, on an average, three years of premature decay of the corporeal functions, and fabric. He says, if she marries at eighteen, instead of twenty-one, there will be nine years of premature decay; and if she marries at sixteen, her physical decline will be hastened by no less than fifteen years! We cannot believe it!

If early marriage works such havoc with the female, what must the same thing do to the male? If the author's assertions could be true, it would soon result in a rapidly deteriorating race, both physically and mentally! There is one fact, however, which argues against early marriages, and that is, that judicious stock raisers never permit their domestic animals to reproduce themselves till they have reached maturity; nor that his fruit trees should bear too soon. The first fruit may be perfect, but the parent stock is held back till the tree is well grown and vigorous. A young heifer is restrained from bearing progeny for one year; but is kept till it attain full strength and vigor, which it will not have as a yearling. The average of physical vigor, in a generation of a hundred cattle, the product of parents (so to speak) three years old, would be, obviously, much greater than that of the same number propagated from parents of two years. Let the process of propagation from ancestors of only two years, be continued for a few successive generations and who can doubt the result, which would be marked deterioration? Then why should not the same results obtain in cases of premature progagation in the human species? The marriage of a mere boy and girl should be prohibited by law, all over the land. Unless parental consent is obtained, no such early marriages are permitted by the laws of Indiana.

A few weak mothers are anxious to have their daughters go abroad, to form acquaintances, and attract suitors. Of course, if a "good catch" is in sight, and marriage is proposed in other countries, there is no trouble about it; they can marry at any age!

Parents often act very foolishly about their daughters having beaux when they are quite young; but at proper times, and under proper restraint, it is beneficial to them. The wise parent should rather encourage early and long acquaintance, and intimacy, under proper regulations as to times, and hours, between their daughters, and well-behaved young men; but while this is true,—early marriages can be prevented by proper training, and good counsel. Thorough acquaintance with each other's characters and capabilities, can only be acquired by intimate association, and long engagements. There would be no "marrying in haste, and repenting at leisure," then!

Among the most reprehensible delinquencies of parents, is allowing their daughters to entertain their male company till late hours. No parent should allow male company to stay till the "wee, sma' hours." The mother should make a confident of her daughter; and warn her that the good opinion of a young man of character, and reason, is more apt to be secured by interdicting unreasonable and unseasonable hours. Everything unseemly should be absolutely, and always, divorced from courtship and marriage. The marriage of persons not wholly acquainted with each other, is to be deprecated, and avoided. Marriage is no lottery, if affection, and mutual understanding of each other is thorough before the

union; and such cannot be, unless courtship is extended to a long period. It is an institution which should be sacredly, and solemnly observed; for it is an institution ordained of God. It has done more to keep the world together than all other influences,—the Church not excepted. It is a holy institution; inspiring, uplifting, restraining, and sweetening lives!

QUERIES

1. Should a doctor give any attention to local politics?

2. What can be done, if anything, to abort an attack of pneumonia?

3. Is a "negative" laboratory report sufficient basis for not reporting a case of diphtheria for quarantine, in the face of strongly suspicious symptoms?

4. What is being done in your community about the inspection of the health of school children and how are the people disposed toward the idea?

5. Do you know that most of the articles in this journal are used because of special requests for them from some of our subscribers and in compliance with requests of our's addressed to the writers, because of their known fitness to discuss the subjects that they write on?

6. Will you help us and yourselves by asking for papers on the subject or subjects in which you are most interested?

Please remember that not all of our readers can be expected to be equally interested in all of the papers presented in our journal, but we want each of them to find some things helpful in each number. And do not forget that we want to give you the journal free for the price of the 1,000 labels that comes with it as a premium, which can not be bought anywhere for less than the $1.00 subscription price.

If a copy of this number comes to your notice, it will certainly be an excellent plan for you to subscribe for 1912 before you may forget to do so.

Do not overlook our "For Sale" and "Wants" department free to subscribers for a limited time.

♣ ♣ ♣

ANSWERS.

I received a copy of your November 1911, No. 11, Recorder, and in your Queries Department will answer to Query No. 2. In the treatment of leg ulcers, I would advise the use of "Scarlet Salve." I find this is a very satisfactory ointment for the ordinary leg ulcer. However, some in my experience are surgical cases. The salve with a good eliminative or alterative compound of the iodides will succeed, I believe, in the majority of cases.

For ordinary colds, I get reasonable good results from a purge, either the mild chloride mercury or a vegetable compound pill, or similar purgative flush the bowels. Also use the following prescription:

℞

Powd. Capsici .....gr. i
Powd. Camph. Doveri....gr. x
Acetanilid Co.....gr. xv
Sulph. Quin., P.& W...gr. xxx

M. ft. Caps. No. 10.

Sig. One capsule every 3 or 4 hours.

I advise hot foot bath on retiring with hot lemonade or hot ginger tea. Keep in doors with room well ventilated until cold is relieved.

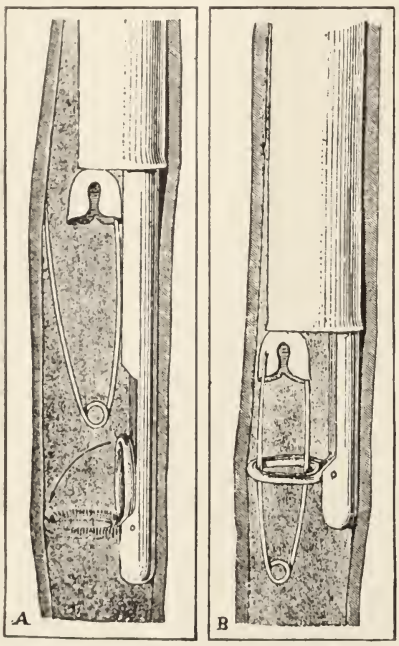
J. P. Brandon, M. D.

Essex, Mo.

INTERIOR ILLUMINATION IN MAN

With the aid of the present effective means of illuminating the Bronchi and the Esophagus the location and the removal of foreign bodies is greatly facilitated and simplified.

The accompanying illustration shows very clearly how the removal of a safety pin can be accomplished without any operation and every step of the procedure be seen almost as clearly as though the work was being done on the surface of the body. The medical attendant can see just where the foreign body is and clearly see what is being accomplished during the whole procedure.



In an article contributed by Dr. R. Burnier to "La Nature," published in Paris, August, 5th, 1911, among other things the author says: Except in children, when general anaesthesia is necessary, local anaesthesia is sufficient. The patient may be seated or recline. It is pointed out too that this means is a successful method in all cases, where radio-graphy fails in a certain portion of them completely, as in bodies of small denisty, like a fruit stone. Again this method enables us to see, not the shadow, but the object itself, whether the walls of the cavity are injured or not, whether the object is still free or encysted and also shows whether the esophagus and trachea are in a physiological or a pathological condition. Diagnosis of aneurysms of the aorta and of intrathoracic tumors and goitres can be made in this way too. The operations for the removal of foreign bodies have been attended by a very high rate of mortality, and this makes the plan mentioned here of still greater importance. Because in the hands of reasonably competent persons, endoscopy is a rational, sure and safe method. The endoscopic tube is introduced down to the foreign body to be removed and various devices, suited to the particular object to be removed are employed to grasp and, if necessary, compress it and finally to withdraw it without causing any further injury to the tract, where it has lodged. The remarkable results obtained in esophagoscopy, led those familiar with them to extend the use of the method to "gastroscopy" and "sigmoidoscopy."

The interior of the stomach can be clearly seen, after it has been washed out and inflated, showing the folds and normal, or abnormal coloration of the mucous membrane, as well as the opening and closing of the pyloric and any pathological lesions, such as gastric ulcer, tumors or suspected cancer, etc. Thus has the discovery by Desormeaux of the first electric "endoscope" in 1855, as modified and perfected, become one of the greatest aids to modern diagnosis and treatment of the internal cavities in man. Some of the other important uses made of interior illumination are the cystoscope, laryngoscope and opthalmoscope.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Janesville, Wis.

STOP THE SLAUGHTER OF THE INNOCENTS.

The city of Milwaukee has been asked to appropriate about $70,000 to enable the Child Welfare Association of that city to continue and to expend their beneficent work for the ensuing year. Their request is based upon the extremely successful work, which they have accomplished in one ward of the city covering about thirty blocks, during the past year. The mortality rate for infants and children in that territory has been reduced at least fifty per cent, (the Assn. claims 66⅔ per cent), and it seems to be conclusively proven, that the same results can be obtained in all parts of this or any other city by following the same or equally good methods.

Regular lectures and demonstrations have been given by competent instructors to the mothers of the district and these instructions followed up by visiting nurses, who have still further illustrated and enforced and supervised them.

There is some question whether the Socialistic administration, now in power in that city will grant the request.

To be consistent with their utopian theories of governmental assistance and control, they would be expected to do so promptly, but it would appear that their extravagant and unbusiness-like methods and use of money in other directions, will help to prevent the undertaking of the establishing of ten other "child welfare stations" like the one, which has been so successfully operated. Thus will this and many other cities refuse to use the money, so readily and uniformly absorbed by "grafters" of all types, for the direct and unmistakable saving of the lives of innocent children and prevent the dwarfed and stunted development of those doomed to a life of dependency upon public or private chairty, of those who barely survive, without sufficient vitality to equip themselves for life's struggles. And their natural guardians are denied the opportunity to secure the information that will enable them to intelligently rear their offspring, whom they love as dearly and would make sacrifices for as willingly, as those more favorably situated, for properly caring for their children.

The daily papers of Milwaukee have given the use of their columns for daily articles on the proper care and feeding of children, for some months.

In contrast with this and as a further proof of the innate selfishness of ALL men, Socialists included, it may be noted that the Socialist Health Officer of Milwaukee has been receiving in salary and fees about $6,000 per year and that he very vigorously opposes a proposed reduction of his salary to a total of $5,000 per year by his Socialist friends. It is believed and with good reason, that a proper attention to the methods that this comparatively small sum of money would finance for the city mentioned, would save the lives of ½ of the children who die annually in Milwaukee and other cities, many of whom are not so favorably situated from a hygienic standpoint.

This means in this one city the actual saving of about 700 lives of children each year on the present basis of population and the saving to possible lives of usefulness of many more, who will be totally unable to cope with their fellows in the struggle for existence, because of their handicaps of physical weakness and inability to perform the tasks that are awaiting them.

When will the conservation of human lives receive helpful recognition? Can not Milwaukee or any other community afford to pay $100 per capita to save a human life each year and pre-

vent untold mental and physical suffering to other lives, ruined because of the effects of preventable diseased conditions that are allowed to prey upon them in their helpless youth, most largely due to the hygienic and sanitary ignorance of their parents?

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SCHOOLS FOR DEFECTIVE CHILDREN.

The superiority of the kind of charity, that helps, even a crippled child, to help itself, rather than to make permanent provision for all of its needs, will appeal to many as beyond the question of an argument. While we have pursued the latter plan quite extensively in our county, we have largely neglected the former one. Not so in several of the European countries, where those who may be permanently disabled by industrial accidents are taught in special work-shops how to become self-sustaining members of society and therefore self-respecting ones too. The trades of book-binding, card-board work, brush making, carpet and mat making, tailoring, saddlery and shoemaking, are taught, also. Bookkeeping, stenography, drawing and manual work in schools for that purpose.

Belgium, Germany, France and Denmark have many of these establishments.

Denmark leads all in this work which was comemnced there in 1874. There are three of these schools in Paris alone, and three in Germany.

The proficiency attained by those, who are seemingly cirppled beyond any possibilty of becoming self-supporting is said to be marvelous, as for instance a man whose hands have been amputated can make brushes almost as well as any workman can.

In twenty-five years 6000 cripples of every age were cared for in Denmark, which is an indication of the need of such institutions everywhere.

In Chicago considerable attention has been paid to the general education of "subnormal" children in the public schools and the State has made provision for paying the extra cost of the education of deaf, blind and crippled children. There are 243 deaf, 38 blind, and 155 crippled children in their public schools, but it does not appear that the latter class is getting the industrial educaion that seems so desirable.

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SURALIMENTATION OF TUBERCULOUS CHILDREN.

Nobicourt finds it difficult to force feeding with a nursing child, but with the bottle 30 or 40 grams of sugar may be added, to furnish 120 to 150 calories; or a yolk of an egg, or a little cream.

From 8 to 30 months he employs the legumes rich in azote; pandadois made with bread crusts, purees of beans, lentils, Italian paste and puddings. For meat he insists on veal, gives raw meat 20-60 grams in 24 hours, or beef juice 50 to 100 cc; and cod liver oil one or two soupspoons. He mixes with the soup one or two egg-yolks.

After 2-½ years he raises the raw meat to 80 or 120 grams, 2 or 3 egg-yolks, or even 4 or 5 when meat is stopped; and adds 3 to 5 soupspoons of cod liver old.

The Lyons municipal open-air school gives this ration for children from 9 to 13 years;

Bread	400 grams
Meat	150 to 200
Dry legumes	14 centiliters
Green legumes	25 centiliters
Wine	25 centiliters
Milk	900 centiliters
Cheese	15 centiliters
Confections	25 centiliters

Alimentary paste or rice 15 grams.
Ann. de Med. et Chir. Infant.

W. F. Waugh, M. D.
Chicago, Ill.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.,
Janesville, Wis.

THE TREATMENT OF AMBLYOPIA BY ELECTRICITY.

The electro-therapy of the eye is a field which has been neglected by most practitioners but has given excellent results to those who have used it properly. At a recent meeting of the Chicago Ophthalmological Society this subject was discussed. From the report of the meeting in the Journal of Ophthalmology and Oto-Laryngology the following is gleaned:

Dr. W. Franklyn Coleman reported the case of a girl of ten years with amblyopia associated with high refractive error, which improved markedly under treatment by the alternating current. The current (sinusoidal) was applied to the eyes and nape of the neck for fifteen minutes daily for three months. Vision was improved from 20 one hundredths to 15 twentieths.

Glasses had been worn three years. Patient had accepted

O. D. 1.75+4.50, Cyl. 90°.
O. S. 1.00+3.50, Cyl. 90°.

No improvement by glasses. No evidences of hysteria.

Dr. Suker said that in small children, in whom high refractive errors usually appear, we should bear in mind that sight is not ocular, but mental, and that it depends on the images formed in the retina, to a certain extent, whether they are complemental. If low mentality is present, low retinal perception will prevail, to a certain extent. The cerebral center of visual interpretation can be stimulated by such means as Dr. Coleman has used. Therefore, if the retina be stimulated indirectly, the brain is stimulated and the images are clear ,because the patient sees better. These patients with high refractive errors, as a rule, lack mental power to maintain the accommodation necessary to overcome the refractive error. Any correction that will give a clear retinal focus or picture of the object looked at will give a better interpretation. By doing that, the fusion power is also improved. The visual activity is increased and stereoscopic vision is stimulated. As soon as stereocopic vision is increased, binocular vision is increased, and consequently perceptive power, and, in turn, visual activity. It is also largely a matter of education with these children. Dr. Suker agreed that there are secondary contractions. That being taken away will give another point in clearing up the faulty images formed. High degrees of refractive error, particularly astigmatic, will give oblique images. We all know that in early presbyopes there is a certain amount of astigmatism.

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THE TONSIL OPERATION.

Recently the newspapers have reported the death of the 18 year old daughter of a Peoria millionaire, from hemorrhage following a tonsil operation. This case has received considerable newspaper attention on account of the wealth of the family but there are many more cases which are never reported. This is a reminder that the removal of tonsils, as well as of adenoids, has a certain amount of risk which should not be ignored. In an article in the Annals of Otology, Rhinology and Laryngology on the relation of enlarged tonsils to endocarditis, Dr. A. C. Getschell draws these conclusions:

In a recent paper in the Boston Medical and Surgical Journal, Dr. E. A. Crockett says: "Twelve deaths have occurred in and about Boston in the last two years following the removal of tonsils, besides a large number of considerable hemorrhages that would have been fatal unless checked by experienced hands." Is it not time to pause and ask if the operation for the removal of tonsils as at present practiced is necessary, and if this toll of mortality is justified?

So far as endocarditis is concerned, I am convinced that a simply hypertrophied tonsil has little to do with it as a causative factor; that when it happens to have been inflamed before the onset of endocarditis, the infection has been on the surface of the tonsil, and has not started deep in the substance of the organ, and that the removal of the tonsil has little effect on the incidence or recurrence of the disease, except, if it be subject to recurring attacks of inflammation, it in so far makes the tissues about the pharynx, including the tonsil itself, more susceptible to infection.

It is beyond the province of the paper to discuss the relation of the tonsil to other diseases. But I infer it is the same. An uninflamed simply hypertrophied tonsil has slight causal relation to systemic disease. An inflamed and diseased tonsil may have such relation, and undoubtedly does in a limited number of cases.

The indications for removal, so far as this question is concerned then, are, is the tonsil subject to recurring attacks of inflammation, or is it evidently diseased? If the tonsil is simply hypertrophied, such removal, either in whole or in part, as will prevent future attacks of inflammation is sufficient. If it is evidently diseased, and especially if buried and bound down by inflammatory tissue, it must be thoroughly dissected out.

In my experience, an operation with the tonsillotome is adequate for the first class. The instrument I have used now many years is a modification of the Mackenzie tonsillotome. Since the operation for the complete removal of tonsils has been practiced, I have slightly modified my method of operating, and have found that a complete removal can be accomplished by this instrument.

This operation in experienced hands, in most cases, removes the tonsil as thoroughly as it can be removed by any operation, and in my opinion is as safe as a tonsil operation can be. In experienced hands, while the operation may not be as complete, the risks of serious accidents are slight. The operation for the removal of tonsils of the second class by dissection methods is a difficult, and in inexperienced hands, a dangerous one. It should be undertaken only by operators of mature experience and skill, and as Dr. Crockett has truly said, by those able and ready to meet dangerous complications that may arise.

ADENOIDS.

The issue of the Journal of the American Medical Association for January 13 contains two notable articles on adenoids,—notable on account of the sound sense they contain. We have a great abundance of articles on the indications and technique of the adenoid operation, but these articles present something different on the subject. The articles are by Dr. Louis Fischer, of New York, and Dr. C. B. Younger, of Chicago, both well known practitioners. Dr. Louis Fischer has had unusual opportunities for drawing his conclusions, as he has for years conducted large clinics in New York City. From my personal knowledge of Dr. Fischer and his pediatric clinics, I consider him one of the world's greatest authorities on matters relating to diseases of children.

RECURRING ADENOIDS.

Dr. Fischer says that the recurrence of adenoid vegetations after thorough curetting of the rhinopharynx suggests a diseased soil. When the needed precautions against the entrance of pathogenic bacteria on a weakened system and the proper nutrition are neglected we are not surprised to find a recurring adenoid vegetation. Occasionally, however, we meet cases in which these have been observed and adenoids have recurred. If no organic lesion is found in such cases and a negative history as to syphilis is elicited, a blood examination should be made to detect latent infection. Here the Wassermann reaction will be appreciated. The importance of a positive diagnosis is evident since the syphilitic child requires treatment. He emphasizes this point and suggests the importance of looking for syphilis in recurring cases of adenoids, which are liable to throw discredit on the skill of the previous physician. It is useless to remove recurring growths which may have an underlying syphilitic basis. Specific treatment is also necessary.

ADENECTOMY.

Dr. Younger says that while there is hardly any abnormal condition of childhood that has received as much public attention as adenoids and few, if any, that have given more satisfactory results from operation, he still thinks that there are some cases where the operation has been unnecessarily performed and that there is sometimes a tendency to careless diagnosis of these cases. There are other obstructions of breathing that will cause the adenoid facies, such as hypertrophic rhinitis, which is quite as prevalent in childrhood as at any other time of life. A high arched palate and protruding front teeth, a very large hypertrophy of the faucial tonsils, or a slight anterior deviation of the spine protruding on the nasopharyngeal space have also been known to cause the symptom-complex of adenoids. Little or no disturbance of nasal breathing may occur from fair-sized adenoid growth in a spacious nasopharynx, and operation may hardly be required. His paper is a plea for such cases as these and for a careful diagnosis of every individual case to determine whether operation is needed. Indiscriminate operation in this class of cases is objectionable, in view of our limited knowledge of the physiology of these tonsillar structures.

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ACUTE OTITIS MEDIA.

Any measure which will relieve this painful trouble is worthy of consideration. Merck's Archives abstracts an article by Obermuller, who recommends the following:

℞

Opii. . . . . .Gm 1.0
Glycerini q. s. ad. . . .Gm 10.0

It is important that no water be used in dissolving the extract and that English glycerine, which is almost anhydrous, be employed. The entire auditory canal should be filled and the patient allowed to rest on the well side for ten to fifteen minutes. The solution should not be warmed and must be perfectly clear. The relief from pain is generally immediate and paracentesis will not be necessary.

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ADVANTAGES OF TORIC LENSES.

Some of the advantages of toric lenses given by a writer in the Optical Journal are:

1. There is not the same trouble with reflections.

2. They can be fitted closer to the eyes and so give a larger field of vision.

3. They protect the eyes from foreign bodies by reason of their shape, and greater proximity to the eyes.

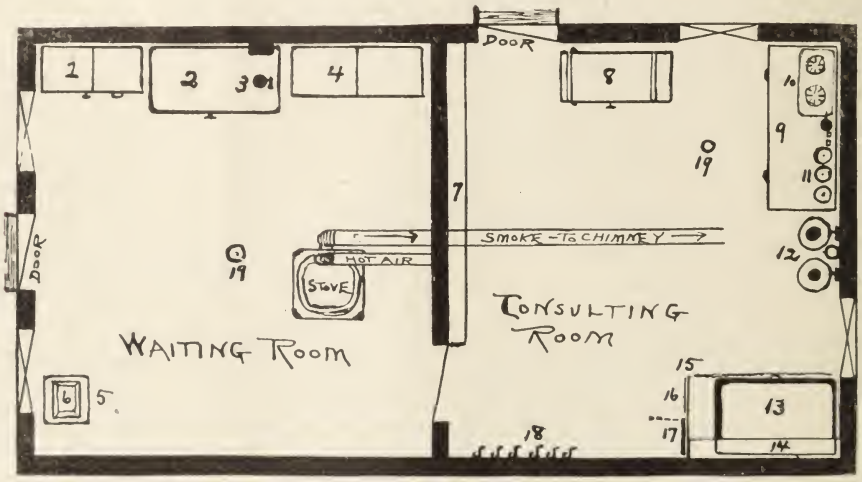
4. In many cases they appear lighter than sphero-cylindrical equivalents.

COMPETITIVE PICTURES

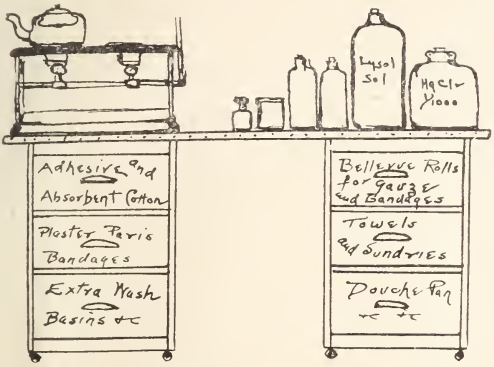
You will doubtless receive many articles on the most convenient physician's office. This article does not describe it, but will be an attempt to describe the office of necessity—a small office of two rooms opened in a village by a young physician with but little cash; the hope that his attempts to arrange a presentable and usable office with small expense may be of aid to some other young doctor in similar circumstances is our apology for what follows—so "here goes."

The building is an old one near the center of the village (no office rooms were to be gotten so this was the only chance to get an office in the business section) 14x26 ft., remodeled to secure light and permit of better arrangement of furniture. The drawing shows the two rooms, each about 13 ft. square. The building faces east, with two windows and a glass door on the east side, one window and a glass door on the south side and one window on the west side. This gives excellent light during the day and at night electricity transforms night to day by means of a 48 c. p. tungsten lamp with holophane reflector on the ceiling of the waiting room and a 40 c. p. tantalum lamp on a drop cord in the consulting room. A "Rayo" oil lamp does well for an emergency lamp and for opthalmoscopy and retinoscopy

The furnishings in the waiting room are: (1) a book case and writing desk combined, holding library, records, correspondence, &c. (2) a libray table with (3) a desk phone, (4) a large instrument cabinet, useful chiefly to hold magazines and sundries at first, (5) a small stand with an (6) oculist's trial case since we do our own refractings. In the consulting room are: (7) drug shelves and lockers for bottles, pill and ointment boxes, &c., (8) a U. S. Army chair table with attachments, (9) a dressing table and cabinet combined on which are kept (10) a 2 burner gasoline stove and (11) antiseptic solutions, dusting powders &c. (12) wash basins and holders and a 1 gallon enameled irrigator hung on the wall. (13) a labrotary table with a shelf for reagents and glassware (these are behind a portiere and are not visible from the room). (15) a temporary partition of wainscoting on which are hung (16) the test charts for testing vision and (17) a hinged mirror which answers both for

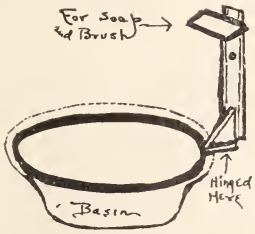


the ladies use and to assist in illuminating the charts by reflected light when thrown out from the partition. Both rooms have linoleum on the floors, and curtains of scrim and ordinary roller shades to shut out the curious gaze. For the waiting room ordinary chairs are



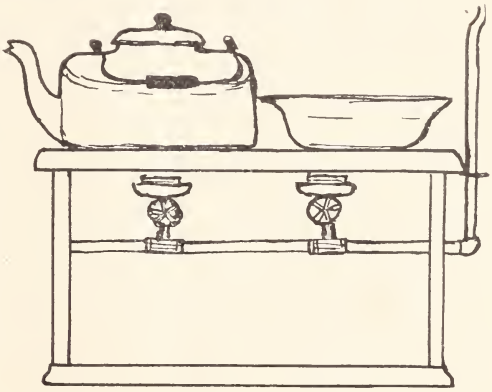
used but for the consulting room the white enameled steel hospital chairs are used. A folding cot on end behind the temporary partition is ready for quick use in case of a visitor having to recline on account of fainting or a dizzyness.

The heating plant is a double jacketed stove of the "oak" type, with a magazine feeder for hard coal. This permits the use of any kind of fuel from corncobs and wood to hard coal. Put in the waiting room it heats the other

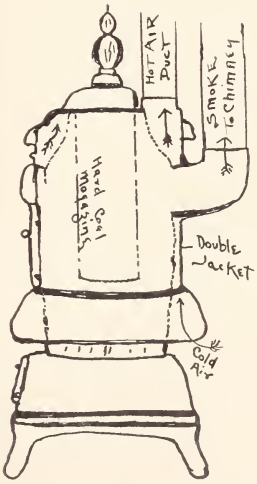


room by means of the hot air duct with no dirty ashes and dust in the consulting room. Such a stove costs from $15 to $20 and is the cheapest all around heater. Size 16 will hold fire 24 hours without attention if hard coal is used in the magazine.

The dressing table and cabinet combined is a flat top office desk with drawers as shown; costs about $15 in oak, somewhat cheaper in other woods. In a small office where space is small the utility of the drawers is readily apparent.



The sterilizer is a small 2 burner inclosed gasoline stove. This can be primed with denatured alcohol in starting with no smoke or odor, is cheap to operate and is ready in three minutes.



Water is sterilized in a 2 gallon white enamel teakettle which is kept full ready for use. Large white enamel wash basins for instruments, &c. complete our sterilizing outfit. It costs: stove $2, kettle $1.50, basins $1.

The washstand is represented by two white enamel wash basins with holders for brush or soap. These occupy but little room as they can be thrown up against the wall when not in use, and they fasten to the wall by a single screw. Total cost complete is about $1.

G. W. SIMINSON, M .D.

Hawley, Minn.

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The accompanying "plan" is of the ground floor (20x40) office of D. W. Stuart Leech, Roseau, Minn., who has been a valued contributor to our journal for a long time.

He built the office at a cost of $2,000. He has a brick garage in the rear and the sum mentioned includes the cost of cement sidewalks.

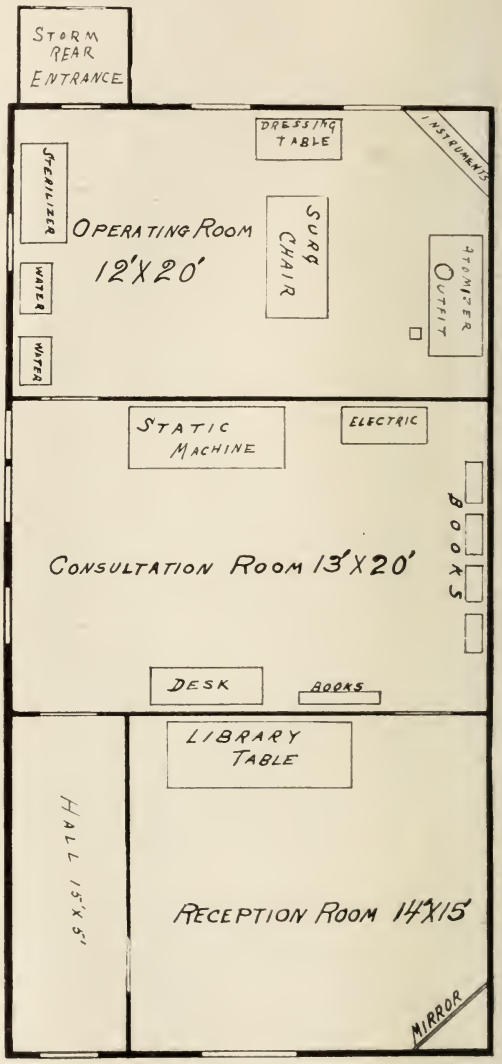
A careful study of the illustration will show any one, that the office is very conveniently arranged and designed for the purposes intended.

The hallway, which permits having a separate exit to the consultation room, without passing out through the reception room and can be used for various other purposes, is a fine feature.

The interest on this investment when the insurance and taxes have been added, is still less than the rent that one is usually asked to pay for some second floor rooms, that lack most of the conveniences that a doctor needs to have, but cannot find in rented rooms built without reference to the use to which they may be put.

The sizes of the rooms and the arrangement of the complete outfit, that the doctor has provided, will be sure to make some of our readers envious, or at least wish that they might have a similar outfit with which to do their work.

One can do much more and better work and in less time and with greater satisfaction to both the patient and the professional man, when a neatly arranged office, with everything necessary to use, systematically planned and ready for instant demand. How different is such an outfit to the crowded and "hit and miss" plan that some are either compelled to adopt, by force of circumstances, or after a while, by choice, perhaps.



MAIN STREET

It is easy for us to think that we are too busy and too tired to give sufficient attention to our office thus permitting some other enterprising, competitor to attract the attention of the public and secure their patronage.

The Wisconsin
Medical Recorder

J. P. THORNE, M. D. } EDITORS
J. V. STEVENS, M. D. }
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LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

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THE DOCTOR AND BUSINESS SUCCESS.

We feel certain that it is the honest conviction of every physician, who has had several years of experience, that there can not be any permanent business success as a doctor, if one violates the ethics of the profession, or leads other than an honest, upright professional and private life.

We have the personal testimony of some of our acquaintances, who had yielded to temptation and violated the principles of moral and in some cases the civic law as well, and also failed to act as required by an observance of our professional ethical law, to the absolute truth of this statement.

We have never found the members of our profession unjust in their application of ethical rules to any individual case. I know of no class of men more willing to be governed by the "Golden Rule," than are the honest, reliable and respectable doctors of any community.

Our observation has led us to believe that no one deviates from the "straight and narrow path" of professional rectitude many times, or for very long, that their lapses are not discovered and they are properly classed and labeled by their colleagues, at least.

How can one expect to be respected and trusted who steals patients from their colleagues, in either one of the many ways that are practiced by some M. D's. in every locality? One method is to accept a consultation call and so conduct the consultation, that the patient is transferred to the consultant from the care of the attending physician. Our teaching in ethics, taught us that it was nothing short of a professional crime to do this or in fact to accept the case to which one had been introduced as a consulting physician. We would never consent to do this and never have done it, though occasionally requested to do so.

In one case of this kind, where in private consideration of the case, we had been obliged to differ with the attending doctor as to diagnosis and felt compelled to advise a change of treatment, gradually made, so as not to attract the attention of the patient or friends, to the change, we refused to take the case when asked to do so and we endorsed the doctor and his treatment of the case so strongly, that when the patient was put in the hands of another M. D. a few days dater, our friends advised the people to have us after the doctor had been discharged, the answer was, "Not by any means." "Why," he said that, "the doctor that we have discharged was doing all that anyone could do," etc.

I have known of several physicians, that became regular outlaws in the profession, because of their constant practice of taking every case that they could get, where they were called in

consultation till no M. D. would either counsel with them or countenance them in any way.

That is worse punishment than most doctors would care to have inflicted upon them. In conversation with a doctor of my acquaintance, recently, we were told of an instance, where a doctor, on being called in a case to counsel with him, had practically ignored him and even ordered some medicine by telephone from the house, without any agreement between them, regarding the matter at all and on making the morning visit, as usual, the next day, the consultant was found there in attendance, without any one having notified the first doctor called, or even suggesting that they desired a change. It was found that the one offending against our reasonable ethics had ingratiated himself into the good opinion of the family and accepted the case without any reference as to whether the other doctor had been notified or not. At another time the same man had told distant friends or relatives of a case that another M. D. was treating that, the diagnosis was incorrect, though he had not seen the case and although careful laboratory tests had confirmed the diagnosis, beyond a chance to doubt and in this way secured the case, which proceeded to a rapid fatal termination, and the wise (?) M. D. was obliged to ascribe the "cause of death" on the death certificate to the disease as first diagnosed.

Another thing that is sometimes done is, to agree with the almost distracted friends of a patient, who has been found to be beyond help, when they suggest that, it is probable that a different result might have been attained, if the consultant or last physician called, as the case may be, had been called first, or earlier.

No one can truthfully say "yes" to such an intimation, nor ought they to do so if they may think that it might possibly have been true.

It is bad enough to lose a beloved friend by death, but far worse to have added to this great sorrow, the still greater one, that they had neglected to secure the best and most skilful help attainable.

While this form of self-flattery may be very insidious and one might easily permit it, when carefully analyzed, it is the most despicable form to indulge in that we can imagine.

We really believe that, no doctor will ever meet with business or professional success who depends on such means or, the constant endeavor to make his patients and their friends believe that he has just barely been able to save them from otherwise certain death, perhaps saying, that "If you had not called me just when you did I could not have pulled you through," etc.

The excuse for this negative paper, of trying to tell how doctors will fail to succeed is to help some one avoid these and the other pitfalls of dissipation, dishonesty, in business affairs or practice, carelessness in either of these, keeping bad company, frequenting bad resorts of any kind or wasting time in useless and therefore, senseless amusements. We have had a "query" asking if a doctor should engage in local politics.

As a correct answer to this question will have a bearing here, we will hazard the answer, "yes," but only to the extent of voting right and lending his influence in favor of whatever stands for the welfare and moral betterment and business advancement of the community in which he is living, being careful to discriminate between principles and parties and vote for men and measures and not in a partisan way, at least as regards local politics. Also very decidedly refuse to accept office, assigning the very obvious and sufficient reason, that you have no time to devote to that purpose.

We think that you will be astonished

at the attention that your opinions will receive and the weight attached to them, when it becomes clearly understood that you are not a self-seeker, as far as office-holding is concerned. Many people are very weary of the class of reform politicians, who are so earnest, apparently, but who never fail to ultimately let it be known that the best and only feasible way in which said reforms can be realized and administered is to put them in office to attend to this part of the programme and to collect the salaries thereunto attached.

An affirmative statement that I want to make regarding business success is to be ready to serve those who may decide to ask for your services AT ONCE. Exhibit a real interest in the case submitted to you and let all those interested see that you are very thorough in trying to get a complete understanding of the difficulty and quietly calmly and confidently proceed to attend to the ailment and be sure to give very explicit directions as to the manner of carrying out your instructions and if any medicine is dispensed do not fail to leave written directions as to its administration, cautioning those in charge regarding the care of the medicine to prevent any children other than the patient that are or might be present from taking it. We think it to be absolutely essential to avoid any appearance of haste, if possible, and to get all of the benefit of a cheerful and confident manner, as a suggestive and psychological effect for the good of the patient and to help and hasten recovery.

THE SENSATION OF BEING SHOCKED ELECTRICALLY.

Dwight L. Clough, the electrician who survived a shock from an electric current says:

"The correct measure of the current was 1,000 amperes under the pressure of between 800 and 900 volts. You see the ampere is the measure of volume, while the volt is the measure of pressure. The chance of living after such a current goes through one is about one in 100. As to my sensations, I had none. I was filing a brush ring on one of the converters. I stood on a rubber mat to insulate myself, as the machine was running. Unnoticed by me, the mat slipped about, and in changing my position a little, I slipped wih one foot into the well under the machine. That threw me against the machine frame, completing the circuit. I saw a blinding flash which seemed to play around my wrists. There was an explosion. I was lifted from the floor an instant and then was hurled back. I was conscious all the time and knew what had happened, but I felt nothing. Apparently every nerve and function of my body, except the brain, was for a omment paralyzed. I lay for a few moments and then managed to get to my feet and attempted to get to the door, but I seemed unable to control my movements and fell again, this time losing consciousness. The next I knew was when I had regained my senses for a time in my room in the hotel."

Mr. Clough is badly burned about the hands, arms and ankles.

The National Association for the study and revention of Tuberculosis, in a statement issued on Jan. 1st, 1912, shows an expenditure of $14,500,000, $11,800,000 of which has been spent in the treatment of cases of the disease in Sanitoria and Hospitals. The remainder has been used in forming tributary and local Associations in paying visiting nurses, assisting boards of health, free dispensaries, open air schools and other agencies.

The sum is about the same as was used for the same purposes last year.

THE DOCTOR LIBRARY

Refraction and Visual Acuity. By Kenneth Scott, M. D., C. M., Consulting Ophthalmic Surgeon to St. Mary's Hospital, London, England, etc. With Sixteen Illustrations and a colored plate. Pages 191. Price, Cloth $1.75. Rebman Co., 1123 Broadway, New York.

This work by a well known London ophthalmologist condenses into one small volume a large amount of information. While intended principally for the instruction of the general practitioner, the book will be found useful by the opthalmologist as well.

The author first explains the refraction of the eye, normal and abnormal and then takes the methods of examination. Retinoscopy is explained very clearly. The subject of color blindness receives careful attention and the various methods of detecting it given. A useful chapter is the one on simulated blindness and how to detect it. A chapter is devoted to the medical inspection of the eyes and eyesight of school children. A section of the book is devoted to visual acuity in relation to public shipping and railway service. We can commend the work to those wishing a concise treatise on refraction.

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Handbook of Treatment for Diseases of the Eye. By Dr. Curt Adam, Surgeon in the University Clinic, Berlin. With a Preface by Prof. Von Michel, Berlin. Translated by W. G. Sym, M. D., and E. M. Lithzow, M. B. With thirty-six illustrations. Pages 264. Cloth, Price $2.50. Rebman Co., 1123 Broadway, New York.

The general practitioner often wants a book where he can learn the treatment of eye diseases quickly and clearly. This book supplies that need. The author assumes that the reader has a certain amount of knowledge of diagnosis of eye conditions and only some points in the differential diagnosis are described. the work being devoted to treatment. Treatments of the different eye diseases are given very plainly.

The newer drugs used in ophthalmic practice are referred to and their value given. One section of the book is devoted to prescriptions and 152 formulae are given. The specialist will find these prescriptions very convenient for reference. One chapter is devoted to the consideration of eye injuries. The book is a very satisfactory treatise on ophthalmic therapeutics and will be found well worth purchasing by both general and special practioners.

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If you have not been favored with a copy, either as a regular subscriber, or with a sample copy of "The Nineteenth Annual Progress" number of the "American Journal of Clinical Medicine," published in Chicago, you ought to ask for a copy. It is a valuable contribution to medical literature and we think that you need it in your profession.

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Over forty cities in Wisconsin have organized Anti-Tuberculosis Societies. Janesville is one of them. These societies are giving invaluable aid in the attempts being made to stamp out the white plague. The very great success already attained is a sure promise of ultimate success, in reducing the mortality from this dread disease to a minimum.

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Gummed labels should be untied as soon as received and kept in a dry place, then they will never stick together. If labels are kept tied tightly in package they will stick together.

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INTESTINAL BACTERIA

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

While we have no doubt that the functions of the intestinal tract are as well understood by the profession as those of any other part of the body, it is yet necessary to briefly review these functions, so that a clearer understanding of the subjects of this paper may be had.

When the food-mass or chyme passes through the pylorus on the way from the stomach to the intestine it consists of various ingredients, some partially, others wholly, digested. Much preliminary work has already been done on proteids by the pepsin of the gastric juice, and on carbohydrates by the ptyalin of the saliva. We have then a mixture of the products of peptic digestion or peptones of salivary digestion or maltose, and of undigested proteids, starches, sugars and fats.

It is the function of the intestine to make this mixture suitable for the needs of the body and to get rid of the wastes. The three functions may be briefly considered under (a) digestive, (b) absorptive and (c) eliminative.

The first of these or the functions of digestion, are almost entirely accomplished by the ferments of the pancreatic juice, which is poured into the duodenum in time to meet the chyme as it comes from the stomach, its production being a result of reflex stimulation by the hydrochloric acid of the gastric juice. By means of these ferments, theoretically at least, all the substances that have escaped digestion in the stomach are given their final treatment and separated into nutritious and waste material.

Thus, the trypsin converts the proteids into peptones, in which shape they are absorbed. Before entering the blood stream, however, another change takes place, this being accomplished by the selective action of the cells through which absorption takes place. We find no such thing as peptones in the blood, and yet we know that peptones are the end products of proteid digestion and are absorbed as such. The change from the peptones of the alimentary tract to the soluble proteids of the blood, such as serum albumin and globulin, takes place in the cells lining the intestine.

The second ferment, amylopsin, takes care of such starches as have escaped the salivary ferment. The end product here is maltose, as in the saliva. But maltose cannot be absorbed, hence another chemical action—inversion—must take place both on the maltose product of digestion and any other disaccharides, such as cane sugar or lactose, that may be present in the chyme. This is accomplished by a ferment—invertin—in the intestinal juice. The end products which are absorbed are glucose and possibly levulose. These undergo no further change but circulate in the blood in the same condition as they were absorbed, for the greater part, however, being dehydrated and deposited as glycogen in the liver, to be sent out again as needed by the body.

The third ferment, steapsin, acts on the fats. Not alone but with the assistance of the strongly alkaline pancreatic juice, bile and succus entericus. The final product of their hydrolytic action consists of glycerin and fatty acids, which latter, reacting with the unconverted fats, by the aid of the alkaline salts, produce an emulsion containing soaps, free fats, fatty acids and glycerin.

Just what becomes of these substances is not yet quite clear. It is evident that the intermediate cells have the power of rebuilding the fat molecule from its constituents, glycerine and fatty acids. Some of this fat is stored in the tissues. Traces of soaps and fatty acids may circulate in the blood, or even larger amounts. As a matter of fact, the condition of hyperacidity of the blood is not uncommon, and is often due to the presence of fatty acids, which are absorbed from the intestine.

Without going into further details, it would seem that if these digestive functions are properly performed, and the products properly absorbed, that nothing should remain behind but unquestionable waste tissue, such as cellulose, connective tissue, etc. That this is not the case except in isolated instances is also clear.

The cause for this must be looked for in three directions, viz.: 1st. Imperfect digestion. 2nd. Imperfect absorption. 3rd. Excessive ingestion, in other words, over-feeding. This latter, by overtaxing both the powers of digestion and absorption, will eventually bring about a defect in these functions, even if they were not at fault in the first place.

Whatever the cause, when any of these conditions exist, we have in the intestinal contents not only waste material but unabsorbed products of digestion and undigested foods.

If digestion is primarily at fault and absorption perfect, these undigested materials will pass along the intestine, giving rise as they go to considerable irritation being as they are practically foreign bodies. As they are subjected to the action of fermentative and putrefactive bacteria, the products formed run all the way from comparatively harmless amido-acids to the dangerous ptomaines. Absorption being unimpaired, a large part of these deleterious products is taken up by the blood and lymph and carried throughout the body, giving rise to the various symptoms of auto-intoxication. Among these wastes is indol, giving rise to indican, the significance of which in auto-intoxications is attracting more notice all the time.

Should, on the other hand, digestion continue unimpaired, while the powers of absorption are limited, we would be confronted by a different condition. Whether the continued action of a ferment on an end-product will produce further cleavage of the molecule, has not been entirely proven. For instance, if trypsin continues to act on peptones, can amido-acids be formed, or are they the result of bacterial action?

Whether the result of enzyme or bacterial action, the fact remains that cleavage products are formed. Peptones and glucose are more easily attacked by bacteria than native proteids and starches. In either case acids are formed. From peptones, amido-acids; from the sugars, lactic or even butyric acid. Absorption being imperfect these remain in the intestine, and exert local action. This may vary from a simple desquamative catarrh to more or less severe ulcerations.

In the condition bearing the clinical term mucous colitis, and concerning which little is known, it may be that some chemical action takes place between these cleavage products on the one hand, and the mucoid secretion of the colon on the other. That the peculiar masses voided in this disease consist of altered mucus is pretty well conceded. And the action of acids on mucus is one of coagulation.

The existence of ulcerations will show itself by more or less blood in the stools, the patient being on a non-meat diet. This excludes blood from the latter source. Many cases of anaemia can be traced to the continued loss of blood in this manner.

It will be seen, then, that in all cases of disturbed equilibrium in the intestinal functions, we will have the formation of harmful cleavage products, which are either absorbed, producing general symptoms, or retained, when the action is local, or both. Whether this cleavage be due to excessively prolonged enzyme action or bacteria, the results are the same.

To the three causes already mentioned, over-feeding, deficient digestion, and imperfect absorption, we may add two more, and these are deficient elimination and excessive bacterial action.

Even when one or more of the first three conditions exist, and the intestinal contents contain undigested food, unabsorbed end-products, or harmful cleavage products, if the contents are regularly removed, the harm done will be kept to a minimum.

On the other hand a prolonged retention even of the normal wastes may have deleterious effects, both from local irritation and absorption. Hardened fecal matter will cause excoriations or ulcerations of the intestinal mucous membrane. In either case if nature cannot clear the intestinal canal sufficiently often, she must be assisted, not by purgative drugs, which are only a makeshift, but by periodical washing out of the bowels.

Finally, the intestinal bacteria may be so increased, either originally or as a result of the above conditions, that they may break up the food-products in spite of otherwise normal digestive and absorptive facilities.

To resume then, whatever the conditions existing at the time, the first thing to be looked to is a regulation of the diet, or prevention of over-feeding. It is advisable to under-feed, if anything, for a time, particularly on proteids. We shall then be sure that no excess is introduced, and have eliminated cause number one. It will then be advisable to look into the efficiency of the various digestive ferments, a proceeding which modern laboratory methods have made practicable, and if any are found deficient, attempt to stimulate their production and in the meanwhile administer substitutes. Having corrected digestion we may next investigate the absorbent power of the intestine, attempting to correct it if necessary. During this time we have also brought about proper elimination by bowel washings. The tendency to form acids is overcome by the copious administration of alkalies, which also neutralize the acids already absorbed and circulating in the blood.

And finally, as we have noted in a previous article, the bacterial flora of the intestine may be investigated with a view to active immunization of the system against their inroads.

We shall thus meet all the various abnormalties, and restore the intestinal functions to as nearly normal as the particular case will admit, by purely physiological methods.

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We shall be greatly pleased, if we can place several more replies, that will give a very complete and detailed treatment for Chronic Indigestion, both as applied to the stomach and the intestinal tract, before our readers.

We consider this a very important and a very common ailment, that many times calls for the exercise of much care and skill to successfully treat it.

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Acute Indigestion is often ascribed as the cause of sudden death. Will some one give our readers the experience that they may have had with this formidable disease?

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

These notes were furnished me by a friend, Dr. J. S. Meais.

Mareel Moreaux discusses the methods of administering iron, in a recent issue of Consultations de Therapeutique.

Despite the opposition of Bunge, the martial medication has always enjoyed the favor of clinicians, in the treatment of anemia. "Whilst in certain cases," says Hagan, "after having tried several martial preparations without success, one declares iron useless, it is because he has neglected a good preparation by which another doctor might cure the case in a few weeks." In other words success depends on the choice.

For a long time, on theoretic grounds, the protochloride was preferred. Then came the iron salts of organic acids. Some favored ferrous salts, others associations of iron and arsenic.

Under the influence of Burne, who denied the absorption of medica-mentous iron, but admitted that of iron as found in food in organic form the vogue turned to natural organic irons, such as hemoglobin, hemazone, hematogene and Martinet's iron nucleinate. Gilbert and Lereboullet preconized the cacodylate of iron by hypodermic injection. Of late, people have vaunted the peptonate, albuminate, and glycerophosphate..

But practice has not confirmed the hopes theoretically built on these. Hemoglobin is variable in composition and alterable, difficult of preservation and preparation; also one may assent to Coherardinid's conslusions as to its inefficiency.

Rabuteau and Hayem prefer the protosalts, soluble or easily solubilized by the gastric juice. Among these nearly all physicians, since the work of Hayem, prefer the protoxalate of iron. Still, one must know how to give it correctly.

For instance, one must not forget the incompatibility between iron and tannin. Next, a secondary effect of martial medication is constipation; hence the association of a laxative is requisite, such as rhubarb, which nevertheless contains tannis as well as the oxymethylan -thraguinone purgative principles. Finally, iron readily determines dyspepsia and we know how frequently anemics present this complication, which is aggravated by the medication or interferes with its absorption.

These features are present with all chlorotics and necessitate the use of adjuvants preceding or accompanying the chalybeate. With hyperpeptics, before prescribing iron we must treat the gastric state by a well-chosen regime, and the use of salines. With hypopeeptics, we must stimulate the gastric secretions or give acids. Hayem prescribes hydrochloire acid at the same time as the protoxalate of iron, half an hour before meals. Lyon employs a more active means by adding to the iron small doses of phosphate of soda. Large doses sedate gastric secretion, but small doses are laxative, tonic, gastric and nervous stimulant (A. Robin), and especially excite an increase of the gastric chlorine. Wolf showed the role of phosphate of soda to be that of a coenzyme, exciting strangely the oxidation provoked by an oxydase, such as a ferrous salt.

The form of iron employed is of importance. When we have to deal with a strenuous case, or a person predisposed to tuberculosis, it is an object to free the perivascular lymph spaces from debris, that the leucocytes may have free access and prevent the first few wander-

ing tubercle bacilli that find entrance from effecting a permanent lodgment and developing a colony. In convalescence also, the channels are obstructed by the waste, and the liquifying action of iodine is useful. The iodide of iron presents another of those apparent antagonisms that are not such; for the two elements act harmoniously, the iodine dissolving and carrying away the rubbish while the iron is rebuilding the hemoglobin molecules and surcharging the red blood corpuscles with material for repairng damages. The stimulant power of the iodide of iron renders it contraindicated in active inflammation of the lymphatic glands.

A martial preparation that has not received the attention it deserves is the ferrocyanide of quinine. Twenty years ago this salt was extensively employed in Europe, and found especially valuable in convalescence when some fever lingered, or a disposition to hectic, affording the benefits formerly sought from Griffith's antihectic mixture.

Whenever a tendency to periodicity appeared, this was the chalyobeate to be chosen. With other martial preparations it fell into a disuse when Burge attacked the medicinal use of iron. Despite their fervent patriotism the French have shown themselves singularly amenable to the German dicta, every impulse from above the Rhine influencing the southern peoples decidedly. One recalls Bismarck's contemptuous allusion to the Latin races as the world's women, while Slav and Teuton represent the masculine element. Nevertheless, Italy, despite her political affiliation with Germany, has shown less scientific subservience. The recollection of Rome's supremacy is not extinct. In the suggestion of protoxolate of iron a commercial proposition may be sensed; and sure enough, in the periodical publishing Moreux article may be found its advertisement! In America this combination has not yet been promoted. Nor does the use of oxalic acid in any form commend itself as desirable.

American physicians generally adhere to the view that the form of iron has less to do than the mode of administration, apart from the individual relish and toleration. When it is desirable to add iron to the blood stock rapidly it is best to infiltrate it constantly into the system by giving minute doses very frequently, so that a little will be at all times undergoing absorption and assimilation. Iron that is copiously diluted will be taken up and appropriated better than when administered in greater concentration. Hence the singular efficiency of the natural chalybeate waters. The value of our American springs will never be appreciated until they are delivered from commercial interests and placed before the public by the medical profession for what they are really worth. Then we will find that we have a wealth of resource here, beyond that of any other country on the globe. Until this is done, we will send thousands of invalids to the spas of Europe, who could find better remedial waters at home.

The phosphate of iron meets most indications not calling for the arsenate or iodide or quinine hydroferrocyanide. Give the patient a vial with 100 of Abbott's granules, a milligram each, and tell her to take one every hour, in a wine glassful of water. They will last a week. If at the end of this time there is not a decided gain of hemoglobin, repeat the prescription, adding 100 nuclein tablets. Let one of these be taken with each dose of iron, but the nuclein must be sucked like a lozenge so that it may be absorbed from the mouth and not from the stomach. Whatever else nuclein does, it has the power of fixing iron in the system. This observation is of far more value than any hair-splitting or theoretical disquisition on the choice of iron preparations. Iron is iron; the form that agrees best with the patient is the best for him. Meanwhile the value of iron is bound to be appreciated more than ever, since we know how to prevent its bad effects.

DEPT. OF SURGERY

By John Dill Robertson, B. S., M. D.
Chicago, Ill.

The etiology of appendicitis as laid down in the standard books on the subject including the comprehensive works of Deaver and Kelly, is distinctly portrayed. Bacterial invasion of the appendix, especially by the colon bacillus (bacterium coli comune, of Escherich) is now known to be the only cause of the disease. But why the affection should be so prevalent as it is, and just what are the local intestinal conditions and the systemic changes which favor its development, have been questions of debate and fruitful sources for the enunciation of theories which are more or less plausible. We may state at once that the old idea of an invasion of the canal of the appendix by foreign bodies in each and every instance of the disease, especially the presence therein of grapeseeds (traumatic appendicitis), has now been abandoned. Except in a very small percentage of the cases, such extraneous matter cannot be found and does not exist. Thus, Kelly states that in 1,000 cases operated upon at Johns Hopkins Hospital in only four instances were foreign bodies found. He quotes 2,527 cases with but 10 due to the presence of foreign bodies—only 2-5 of 1 per cent of the entire number. Murphy found foreign bodies present in 3.5 per cent of his cases, while Fitz and Matterstock found them in 12 per cent of the perforative cases. Ranvier discovered 16 foreign bodies in 459 postmortem examinations, or 3.5 per cent of the cases. It is probable that all cases, perforative and nonperforative, will show but from 2 to 3 per cent as due to the irritation and actual trauma induced by the presence of foreign bodies. To this may be added the slightly larger percentage arising from the presence of fecal concretions (stercoral appendicitis). When these cases are included, we find about 12 per cent of the patients operated upon may be grouped under the so-called traumatic class. This will leave a very large percentage of the cases which cannot be ascribed to some local traumatic influence.

It is interesting, briefly, to note the various factors that have been advanced from time to time in the effort to elucidate the problem in this large group of cases. Flatulent distention of the colon, forcing fecal matter into the appendix by pneumatic pressure; colonic inflammation, causing occlusion of the mouth of the appendix with retention of irritating substances in its lumen; the deposit of uric acid crystals in the walls of the appendix (appendicular lithiasis); habitual constipation; chronic intestinal indigestion; intestinal catarrh; overeating, especially at night; a local (appendical) manifestation in influenza and the exanthemata—all have been quoted as predisposing or exciting cauess of the disease by various authors at home and abroad. Admitting an etiologic relationship in each and every instance, the mistake lies in misinterpreting the status quo of the condition, and in ascribing to a minor or coincidental circumstance the chief or vital role in the causation of the disease.

A close and careful investigation of the subject covering a large clinical and surgical experience in appendicitis, has led the writer to a positive conclusion as to the exact etiology of the disease which may be expressed as follows: Inflammation of the appendix vermiformis, like all inflammations, is associated with vascular disturbances which not only accompany but precede the inflammation. These are the predisposing

factors in all forms of appendicitis, except possibly in those rare cases which arise from continuity of mucous structure, as in dysentery and typhoid fever. It will require but a glance at the anatomy of the appendix and the cecum (of which the appendix is a part so far as its muscular structure and vascular supply are concerned) to appreciate the etiologic importance of these vascular disturbances. Merely a superficial examination will show that the muscular fibres of the cecum known as the longitudinal bands of the cecum, and by some designated as the "triband of the cecum and colon," extend down into and completely surround the appendix. In other words, the longitudinal bands of the large gut are continuous with the muscular coat of the appendix. This fact is further, and conclusively, demonstrated by a study of the mode of development of the cecum and the appendix. In early foetal life the cecum and appendix are one, and their structures are continuous, but for certain developmental reasons the upper portion outgrows the lower with the result eventually that we have the larger portion, or cecum, above and the appendix, or undeveloped portion, below. This variation in the development of the two portions is altogether due to a difference in the circulation above and below, the appendix receiving a much smaller blood-supply than the cecum.

The vascular supply of the appendix is derived from the superior mesenteric, through the ileocecal artery, by a branch called the appendicular artery. This vessel traverses a fold of peritoneum behind the ileum to enter the meso-appendix. Running along this small mesentery near its free margin, it sends off several brances across the mesentery, which enter the appendix, and itself finally terminates in the appendix. In women this supply of blood is occasionally supplemented by a small branch of the ovarian artery which traverses the appendiculo-ovarian ligament. This fact, together with the greater freedom from exposure to traumatism enjoyed by the female sex and their weaker musculature, may explain the infrequency of the disease in women as compared with men in the proportion of two women to three men.

Now, the minute arterial branches must pass through the muscular coat of the appendix in order to reach the submucous later, and the returning small veins pass out the same way. These veins, it must be remembered, are valveless and surrounded as they are by soft lymphoid tissue without much connective tissue element to furnish support to their thin walls, they are especially subject to compression by any muscular action however trivial it may be. The outer walls of the appendix are composed of the end fibres of the great triband of the colon, and it must, therefore, share at all times in the alternate contraction and relaxation that takes place in the muscle of the large gut. The venous walls consequently are more or less impinged upon by this muscular action and a condition of hyperemia and thrombosis may be readily induced with them. These thrombi invariably precede the attack of appendicitis, and are readily invaded by the microbes which wander into them from the lumen of the appendix. Infection is thus brought about, and an acute attack of appendicitis is precipitated. Muscular contractions of the walls of the appendix may even induce a rupture of some of these minute veins, and Riedel states that "haemorrhage into the tissue and beneath the epithelium may precipitate a sudden acute attack of inflammation by injuring the tissues."

Lockwood has probably given the best description of the muscular wall of the appendix to be found. He says that "the circular muscular coat is a ring of unstriped muscular fibers about one millimeter thick. It has a dense appearance, because it contains hardly any connective tissue cells and but few

blood vessels." Again, "the subperitioneal tissue and the blood vessels, nerves, and lymphatics which it contains are very intimately connected with the submucosa. This union takes place at certain gaps in the muscular coats, which gaps serve for the transmission of blood-vessels, nerves, and lymphatics from the mesoappendix to the mucous coat." "In proportion to the thickness of their walls the lumena of the apepndicular veins are of vast size, and it may safely be inferred that they easily become distended with blood. Their anatomical relation to the rest of the portal system is also calculated to conduce to venous engorgement." "Owing to the stagnation of the blood stream, clots are nearly always present in the appendicular veins in acute infective appendicitis with perforation or gangrene and, in the absence of valves these clots can easily spread and become detached."

These quotations from a prominent investigator present a vivid picture of the minute anatomy of the appendix and clearly indicate how readily vascular disturbances may be induced in the appendicular walls by muscular action. When we remember that upon the triband of the colon depends the responsibility of lifting the remnants of digestion over to the splenic flexure, and finally of depositing it in the sigmoid, we will begin to appreciate the amount of alternate contraction and relaxation that must take place in this vessel to accomplish this amount of work, and incidentally the tremendous amount of pressure that the appendicular artery and its minute ramifications must be subjected to as it passes through the appendicular wall in order to supply nourishment to the mucous layer. The same muscular action must have a still greater effect upon the venous return, since the walls of the venules are thinner and softer than those of the arterioles and the vis-a-tergo is not so great. Thus it comes to pass that in spasm of the colon, with rigid contraction of the taenia coli, the circulation in the mucosa of the appendix can be completely shut off for minutes at a time. If the passive congestion will be induced to give rise to a twinge of appendicular colic; and if this fleeting obstruction be repeatedly produced throughout a protracted period enough interference with the circulation of the appendix will follow to result in deficiency in the nourishment of the organ. There will be produced in this way a progressive condition of appendicular hyperemia which allows large quantities of carbon dioxide to accumulate in the lymph. The protoplasm of the mucous cells is thereby deprived of its normal nutriment, and atrophy and degeneration ensue. This makes the catarrhal from of appendicitis easy of accomplishment through the action of the colon bacillus and other bacteria. At the same time the carbon dioxide, by stimulating the fixed connective tissue surrounding the blood-vessels will gradually produce an appendicular anemia associated with constriction and stenosis of the lumen of the apendix. In this manner the stenosing variety of appendicitis is produced. which is characterized by repeated attacks of appendicular colic. If the period of colonic spasm is more protracted, the venules of the appendix will become thrombosed, and a rapid invasion of the thrombi by the colon bacillus or other germs will follow, producing the acue appendicitis with or without pus formation; while if the contraction be prolonged for a sufficient length of time gangrene ensues.

With this fact of vascular disturbance produced by contraction of the appendical walls through the action of the prolongation of the triband of the colon well established, it is easy to note how the various causes to which appendicitis has been ascribed may act. Chronic contipation and intestinal indigestion, by producing venous stasis and intestinal tormina, result in a pronounced ven-

ous congestion with stasis of the circulation. Action of the triband now results in thrombus formation, the germs gain entrance and the disease is engendered. Adhesion of the appendix to the surrounding inflamed structures results in the same thing. The venous circulation is interfered with at once, and there is now a ready avenue of entrance for the germs through the inflammatory exudate of low vitality. The reason why the disease is more common in the young is because the muscular structure of the body, and that of the colon and appendix as well, is at its best at this age and can act most effectively in occluding the circulation in the efficiency of the muscular tissue generally.

CONCLUSIONS.

From the foregoing study the following conclusions may be definitely drawn:

1. The muscles of the colon and appendix are an entity.

2. Muscular contraction in the colon and cecum, whether of the circular fibres or of the longintudinal bands, must be associated with a simultaneous contraction of the muscular walls of the appendix.

3. This contraction is induced by nerve stimulation, the stimulant being presented by the various tabulated predisposing factors as enunciated by many observers, all of which can be accounted for in this one general cause.

4. While the normal muscular contraction and relaxation of the appendix act only to support circulation, when spasmodic in nature it overdoes the matter and produces vascular disturbances.

5. Owing to the peculiar anatomic structure of the appendix, all that tissue within the circular muscle fibres, being spongy in nature, becomes during the abnormal contraction a veritable dam in which the blood is retained until released by the subsidence of the spasm.

6. According to the intensity of the spasm will depend the degree of mucous membrane varicosity and edema, and thus will be determined the varying degrees of inflammatory action.

7. If the spasm be of the mildest degree only, then appendicular colic will result; if of the maximum intensity, gangrene will result.

8. It may therefore be concluded that atrophy, degeneration, hypermia, congestion, hyperplasia of connective tissue, and thrombus formation occur before, and not after bacterial invasion of the walls of the appendix.

CHILBLAINS.

Doctor, how do you treat chilblains? The Chicago Health Officer advises that you paint it with tincture of iodine. The objection to that is, that it applies a sedative, destructive agent, to tissues already debilitated by disease, hence more likely to succumb to any further debilitating influence than healthy tissues. This applies also to the treatment I have myself found effective, that is, the application of the official phonol ointment. Wright says that the malady can be quickly cured by the administration of a few doses of lime salts. Dr. Burdick, who can rarely be persuaded to give a therapeutic suggestion, but never gives one which isn't good, says he has had good success by applying the acetate of zinc. That leads me to suggest that the sulphocarbolate of zinc ought to be just about right, since it is antiseptic and non-toxic. I suggest a lotion of five to twenty grains to the ounce. In the former strength I have found that it quickly relieves pruritis ani, hence it ought to relieve the distressing itching and burning of chilblains. The latter according to Dr. Young, are caused by putting the cold feet close to a very hot fire.

X-RAY CONJUNCTIVITIS

By H. C. BENNETT, M. D., M. E.
Lima, Ohio

Specialists are born, not made to order. The true specialist should have pased through the gestation of experience in general practice, in which his specialty will have a chance for a good incubation before being brought out of the shell of dogmatic beliefs, and set before the critical and unjust judgment of public opinion.

When a man is in general practice he may try several things, and he will soon learn which he prefers, and in which he will have the most success, so that he will gradually drift into the line of work to which he is best adapted. Where he succeeds once he will naturally want to, and probably will, succeed again, and as "nothing succeeds like success," with success will come confidence, and more and more success, till eventually he will be called to do that which he can best do, so that after a while he will only be consulted along the line of his success, and then he becomes a specialist.

Specialism is the order of the day. I do not mean by that, that specialists must do nothing else but one thing. That will rob a man of his symmetry and make him narrow, and eventually lopsided, till he thinks there is nothing but his line. He will travel along in a rut, and it gets deeper and deeper, till he cannot see outside the embankments on either side, and possibly he may never get out of it, and up on the broad field of common sense.

To be a good specialist one must know something about many things, and then he must know a good deal about a few things.

It is not to be expected, even if it were possible, to know all about anything, but even if he approaches to that point, he must not overlook the fact that "there are others."

Take the special practice of electrotherapeutics, in which some of us are most interested. There are some who seem to think that there is no need of other methods of treatment. That is where they are lame, and do not know it.

There are some things which can be done better by means of electrification than others, but it is not a cure-all and will not displace all other remedies. A proper understanding of anatomy and thorough study of the physics, chemism and physiological action of the different electrification modalities and laws, will enable the discriminating specialist to succeed in a majority of cases, where the superficial observer and careless operator will fail miserably. There is where too many overlook the vital point.

The fact that a man is an eminent surgeon, a noted physician, a brilliant diagnostician, or an expert anything, does not prevent him from being a complete failure when it comes to something else about which he knows nothing, and moreover, will not take the time necessary to learn or be taught.

I have in mind an example. He is a noted surgeon, having graduated into his specialty from general practice, and he has posted himself thoroughly in his particular line of work, and if I had need of such services I would not hesitate to trust myself or family in his hands.

He purchased an expensive electrotherapeutic outfit, saw that it was in running order, and then turned it over to an assistant, who never had any more special training in electro-therapeutics than the other. I am told they are giving alleged electro-therapeutic treatments in some cases, and I know they are not in others.

A gynecological case consulted the principal, and she herself suggested the advisability of taking some electric treatments for her trouble, because she

had been so treated before with some benefit.

She was told that such could be given by them, but that the electric treatment would do her no good, and that her condition was such that nothing but a capital operation, consisting of the complete extirpation of the uterus, ovaries and adnexa would ever do her any good. This she promptly, and very properly, refused to allow, and left in despair. After a time she consulted me, and on examination I found an acutely anteflexed uterus, with subinvolution, and very sensitive right ovary with some hyperplastic exudate complicated with hemorrhoids. There was absolutely no need of such an operation as was advised in her case.

On account of the strong suspicion of pregnancy I gave no electric treatment, pending more definite knowledge. It later developed that she was not pregnant, and without any operation or treatment beyond rest and electrification, is after a number of years a well and whole woman, having all of her sex organs retained and normally active.

I do not cite this case to blame or ridicule the surgeon, who is an expert in his line, but merely, "to point the moral and adorn the tale," and emphasize the fact that he had no business to express an opinion about something of which he was ignorant.

I know another physician in general practice who is very successful, and who has an excellent battery outfit, yet he has neglected his opportunities to study electro-therapeutics to such an extent that a number of his patients have come to me for treatment, in the past, for such troubles as he could certainly have cured, and who have paid me several times more than his outfit cost him, and they told me that he never even mentioned the advisability of their taking electric treatments. That only shows how shortsighted some doctors are.

Now about advertising, which is the second part of my text.

When a physician is fully equipped with modern and up-to-date apparatus, and is well posted in their applications, it is nothing more than right that the public should be informed about it, and I think the modest publication of such facts should be considered as legitimate.

This will, of course, place the other physician, who is without this equipment and knowledge, at a great disadvantage, but that is his fault, and also his misfortune, and instead of his knocking you and your methods, which will do you no harm among the thinking class, and will do him no good, he'd better sit up and take notice of the trend of modern therapeutics and do likewise before it is too late to get a fair start in the race.

There is no reason why the long-suffering public, who pay the bills, should suffer longer on account of the want of progress on the part of the medical profession, and if another physician is not qualified and prepared to practice the new things, and to give his clientele the benefit of the newest and best, then there is no reason for excusing or shielding him in his ultra-conservatism.

The up-to-date, progressive, hustling, busy, sucessful physician always has created and always will create a jealousy, and incite antagonism, and stir up opposition on the part of the less progressive and such jealousy often leads to the rankest kind of persecution, vilification and even personal abuse.

I have recently been informed by a correspondent in New York that he was secretly being attacked by a number of physicians who had unsuccessfully treated a case of spasmodic asthma which he cured with well-directed electrification, and who were saying that the treatment was all wrong and entirely uncalled for, notwithstanding the fact that they had had the first chance

and failed, whereas he came in later and "delivered the goods" in the way of a cure.

Another doctor in Iowa was sued for malpractice because he treated with electrification a man who was going blind and who later died of typhoid fever.

Another reputable physician in a certain state was notified to appear before the state tribunal and show cause why his state license should not be revoked because he had stated publicly (in print) that appendicitis was amenable to electric treatment (which it is).

In this case it would appear that the trouble lay, not so much in the statement as in the manner of the publicity of the fact.

All physicians advertise in one way or other, but many of them do not like to have it called that, or to be told about it.

It is barely possible that those very state board officials secured their appointments through some form of skilful advertising, and may possibly be deriving considerable pecuniary benefit from the appointment, by means of further adroit advertising of the fact.

It is true that advertisers are too often grafters, which fact has led to the general charge that all advertisers are grafters, and consequently the honest advertisers are forced to bear this opprobious stigma.

There is an old story, the authorship of which I have forgotten, but which will bear repetition to the effect that: while all horse thieves are democratic, it does not follow that all democrats are horse thieves.

I hope you see the point, that: while most grafters are advertisers, not all advertisers are grafters.

Recently, in conversation with a successful doctor, in his elegantly equipped offices in Michigan, it has developed that he had been offered $8000 cash to step out of his office, which was paying him over $2,000 a month net. He was an advertiser, that is, he used the newspapers liberally but, after a careful analysis of the wording of his ads, I could not see but that he was stating facts. He said he made no promises which he could not fulfill. He only took such cases as he felt reasonably confident of his ability to cure.

There are several kinds of advertisers.

One kind is the man who reports all of his most important moves to a local newspaper and secretly pays for it at the regular rates for reading matter.

Another kind is the man who stands in with the reporters, and while he hands out news items with one hand, he does not let that hand know what he is handing out with the other. Another kind of advertiser is the man who "cons" the old women of the neighborhood to talk him up, and "plug" for him whenever the opportunity offers, and they even make opportunities.

Another kind of advertiser is the man who works the free clinical dispensary racket for all there is in it, steering likely charity cases to his office. Another is the man who has a public appointment, and his name as a member of such and such a hospital staff or college faculty follows him wherever he goes like the tail of the peacock.

Still another kind of advertiser is the man who cuts loose from all restraint, and boldly and blatantly guarantees to cure everything from corns to cross eyes, and who holds out false hopes to the incurable and will promise "any old thing" in order to get the people to come to his office, for the sole purpose of separting them from their money, without making any attempt or effort to give them "value received."

These last are the fakes, quacks, grafters and leeches, sucking the lifeblood from the poor patients, who will give anything for a little hope, although many of them are intelligent enough to

know better. These are the ones who are bringing disrepute upon the honest advertiser who does what I would call legitimate advertising, the man who puts down demonstrated facts in printer's ink, and tells the public honestly just what he is qualified to do, in the way of modern methods and with up-to-date apparatus.

An electro-therapeutic equipment will prove a paying investment, only provided it is used properly and the operator has the necessary "know how," coupled with preliminary training, prudence, and sense. You can tell the public what you are doing and what you do it with, and if you get results you will not have to tell it very long, because the cured and well-satisfied patients will do all the advertising for you freely and well, and this is the best advertisement. Learn how to "deliver the goods."

RECTUM EXAMINATION

CHARLES J. DRUECK, M. D.
Chicago

(Continued from Page 17 January Recorder)

Digital examination of the interior of the rectum follows inspection, and it is the most important of all methods. The practitioner who is familiar with the digital examination of these parts can diagnose better with his finger than by any other way. Fully 80 per cent. of all rectal cases may be diagnosed with the finger and the other 20 per cent. by the history of the case and a speculum examination. Digital examination not only confirms the opinion regarding the local conditions found by inspection, but also determines other conditions to which the attention may be directed. The finger should first be swept around outside of the anus to palpate any induration or tenderness, either superficial or deep, which might indicate abscess or fistula. For internal examination the finger-nail should be well-trimmed and the finger anointed with olive oil, which is not so easily rubbed off by the sphincter as is soap or vaseline. Whatever lubricant is used must be kept in collapsible tubes, as this is the only method of having clean, sterile lubricant at all times. The cost is little and the advantages great over the old-fashioned jar of vaseline into which fingers and instruments were repeatedly dipped, carrying infection from one patient to another. For aesthetic reasons the rubber tissue cot may be worn if desired, because it will not affect the sensibility of the touch and may be washed and anointed. The finger is then gently insinuated through the anus with a rotary or boring motion, the patient being asked to bear down at the same time, and the rectum systematically palpated as high as the finger will reach. The introduction will be rendered much easier if the normal direction of the rectum is remembered and the finger is first directed up and forward toward the neck of the bladder, until the sphincter is passed, and then backward toward the sacrum. The sphincter is very sensitive, and any undue haste or roughness may induce spasm of the muscle, which will make the examination very painful and unsatisfactory. The iliac fossae should be firmly explored to determine whether there is any tenderness or tumor. The finger should be introduced its full length, and, by passing the other fingers of the hand back into the intergluteal space instead of doubling them into the palm, an increased reach is obtained; also if the patient bears down or strains during the examination, one or two inches more of the rectum can be examined.

The condition of the sphincter should be noted; whether it is relaxed, suggesting a debilitated system, cancer, or large internal hemorrhoids, which latter weaken the muscle by frequently protruding; or contracted, signifying acute disease in the anal canal, anal fissure, or a nervous subject; or whether hypertrophied, denoting chronic disease; or finally is it atrophied. The spasmodic action should be overcome by slow, steady pressure, as the sphincter is always forcibly contracted on attempting examination. Frequently the internal opening of a fistula is found just within the sphincter, as a rough, indurated and sensitive spot, which may be elevated or depressed (ulcerated); or the path of the sinus is felt by its cord-like resistance. If the tumor is felt, its size, shape, location, movability and resistance are to be ascertained, and, if possible, a small piece removed later through the speculum for microscopic examination. Fecal impaction of the rectum or colon has often been mistaken for cancer. Polypi, stricture, abscesses, gallstones and other foreign bodies are occasionally felt. The tumor of appendicitis is found in the right pelvis if the appendix is low, and rectal palpation should be practiced in every case of suspected appendicitis. Malignant disease of the rectum or pelvis, the tumor of intussusception or an infected lymph gland may also be felt. Induration or constriction of the walls and the condition of the other pelvic organs is to be determined. Palpation of the prostate may reveal enlargement, induration, tenderness or soft points. The uterus and appendages should always be examined. Vesical irritation is a frequent source of reflex distrubance, and the bladder always should be examined. A stone may be found to be the origin of the trouble, although no symptoms were manifested. A digital examination through the rectum often assists considerably in diagnosing diseases of the urethra, Cowper's glands, seminal vesicles, bladder, vagina and pelvic bones; also tumors and abscesses of the peritoneal cavity, dislocation of the femur, ischial hernia and aneurysms of the gluteal artery. Very little information is gained by digital examination regarding hemorrhoids, except in rare cases, where much hypertrophy has occurred in the mucous membrane. Otherwise, the hemorrhoid being covered with nearly normal mucous membrane, gives no differential tactile sensation. Thus, you see, a digital examination through the rectum is imperative in any case indicating disease below the pelvic brim. On withdrawing the finger it may be covered or streaked with blood, pus or mucus, each with its own significance. If a stricture is so small as not to admit the passage of the finger, no force should be used, as rupture of the bowel has followed such an attempt. The cervix, the fundus of the uterus, or the prostate may be mistaken for a tumor. In rare instances it may be necessary to introduce the whole hand into the rectum, but as the walls are so crowded upon the fingers, and the folds of the mucous membrane fall in between the fingers, very little knowledge is obtained, and there is always the danger of rupturing the bowel. A laparotomy and intra-abdominal palpation is preferable when the disease is high in the rectum or in the sigmoid. A digital examination carefully performed is not painful unless a fissure is present.

INSTRUMENTAL EXAMINATION.

That part of the rectum beyond the reach of the finger may be examined by means of bougies or sounds, although their use is open to criticism and is often contra-indicated. Only soft, flexible rubber instruments should be used (Wales bougies), and these must be handled with great caution. They should be hollow, to permit the injection of fluid through them into the part beyond, thus dilating the rec-

tum in advance and effacing any folds that might obstruct their introduction.

Too great value must not be placed on bougies, as their field of usefulness is limited, and even in a healthy bowel the sensations of obstruction often are obtained and may be misleading. I have yet to see a student who did not find a stricture the first time he introduced a bougie, because the sound often impinges on the wall of the bowel between the folds of the gut, or it may strike the uterus or prostate, or the promontory of the sacrum. There is always danger of a metal or hard rubber sound penetrating the bowel, especially in cancer or ulcerations. Sometimes the so-called third sphincter, which is only a semi-lunar, transverse fold of the anterior and the right sides of the rectum about six to eight centimetres above the anus, may catch the bougie. Normally the bougie may be introduced with care to the middle of the sigmoid flexure. If the mesocolon of the sigmoid is very long, the bougie may be felt on the right side and lead the examiner to think it had perforated the bowel. Probes.—The probe has no place in the diagnostics of rectal diseases and very little in the treatment, except in fistual. Even here its value is very limited. Irrigations and injections are sometimes used for diagnostic purposes, and are best accomplished in the knee-chest or dorsal position. Speculae.—The speculum corroborates the digital findings and aids in the diagnosis where the finger fails, but by no means supercedes the latter. Haemorrhage, pain or discharge are important symptoms. The internal openings of fistula may be seen, especially if the discharge escapes during instrumentation. Internal hemorrhoids usually drop into the instrument and are easily seen. The decision as to which is the best speculum depends upon which one you are more familiar with. Each instrument is constructed differently, but the more rectal examinations you make the less you will use the speculum. The smooth blade bivalve causes much less pain than the wire blades, but it obstructs the field of vision and exposes only a small area at one time, and the speculum must therefore be rotated.

The cylindrical speculum permits of the most thorough work. With the patient in the knee-chest position and a speculum five inches long and one inch in diameter the whole length of the rectum may be examined. Such a speculum is provided with an oburator to facilitate its introduction which should be accomplished without much pain. When the obdurator is withdrawn, the air rushes in and dilates the bowel, and the whole rectal wall may be inspected by moving the introduced end about, at the same time gradually withdrawing the speculum. The mucous membrane directly in front of the speculum is flattened out and viewed easily by gently pushing the speculum up after the obdurator has been removed. By putting the patient under the infiuence of a general anesthetic many of the obstacles to the examination are removed and the field may be explored thoroughly; the sphincter completely relaxes, pain is obviated, and in such cases it is well to be prepared to do any necessary surgical treatment in order to avoid a second anesthetic. When the patient is anesthetized an ordinary flat retractor frequently makes a very satisfactory speculum. A cylindrical speculum ten to thirteen inches long may be introduced, and the sigmoid explored, but as the great majority of rectal troubles are near the anus, a short and wide speculum is preferable.

When the patient is in the knee-chest position, the chest should be well down on the table and all constrictions at the waist must be removed.

In many instances, owing to local disease or reflex nervous excitement, we find the sphincter abnormally con-

tracted, making an examination very painful and often impossible without some previous preparation.

An old-fashioned way of overcoming these difficulties was to anesthetize the patient, and with the thumbs introduced through the anus and then drawn forcibly out to the ischial tuberosities, to tear and strain the sphincters until paralyzed. Such a procedure is unnecessary.

438 East 46th Street.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
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VAGINAL DOUCHE THERAPY.

By Dr. J. G. Hutchinson, Louisville, Ky.

The term douche is derived from the Latin word duco, to conduct. The history and evolution of the vaginal douche would prove an interesting chapter in the annals of modern therapeutic means, if traced from its early crudeness to its present status and availability.

The employment of the vaginal douche is the application of the idea conveyed in the derivation of the term "douche"—the conducting of a substance to some part. We shall view, in this paper, the field of the vaginal douche, considering its value and its method of application.

That the vaginal douche is a convenient and dependable means of treating diseases of the uterus, and the vagina, we have the substantiating evidence of the leading gynecologists and obstetricians in this country and Europe.

The essential feature of the douche is, that by its employment we can apply drugs directly to the affected organs—a thing not obtainable, in all cases, by other means—with the convenience and thoroughness which is readily afforded by the douche, if properly used.

It is well to name the affections in which the vaginal douche has been employed with such a degree of success as to demonstrate its superiority or fitness.

We have as practitioners, to treat many diseases of the cervix uteri. There are many cases of laceration of the cervix following labor, and to these are attributable discharges, often very copious, and the attendant inroad on the general health of the patient is great. Some of the most attenuated cases of secondary anemia, will be found associated with cervical disease—that was originated in injury.

Then we have cervical disease due to gonorrhoea and other disease influences. Ulcers of the cervix are a commonly encountered condition. These and other diseases of the cervix will form a great part of the diseases peculiar to women, which the physician is called upon to treat. In such cases the rational means of treating these diseases must lie in the local application of proper remedies to the diseased surfaces. The vaginal douche, more than any other means with which we are acquainted, will carry proper medicaments to the site of the disease, and the morbid process being purely local in character, we may expect to attain results of a satisfactory nature. In discharges due to inflammation of the cervix, cervical ulcers, and like conditions, there has, in my hands, not been found anything to equal vaginal douches of astringent and antiseptic drugs—in mild inflammations, a solution of one drachm of boric acid in a pint of water, of the temperature of 100 F. or thereabouts. This should be employed once or twice in twenty-four hours. In cases where the discharge is abundant we had better use a solution of tannic acid. One grain of tannic acid

to the ounce of hot water makes a solution that is most efficient. This may be used every twelve or twenty-four hours as the judgment of the attending physician may deem necessary. In uterine displacements of considerable duration we will find discharges from the vagina. These are often most profuse—again they are of small significance. The treatment in these cases lies in the correction of the malposition, and the subsequent employment of the vaginal douche—using mild astringent solutions at least once a day. In these cases there is no remedy superior to alum. This may be used in the strength advised by Shoemaker (1) ten grains to the ounce of hot water. In this strength the alum solution is not irritating and tends to correct the catarrhal inflammation, and exerts a toning effect upon the relaxed uterine ligaments. My favorite means consists in using the douche twice daily until the discharge ceases, and then it can be employed once daily, or every third day.

In the treatment of endometritis the use of the vaginal douche has the endorsement of Wells and other eminent gynecologists. Regarding the treatment of endometritis, Wells says: "Injections of hot water containing borax in the strength of about two drachms to the quart, are highly recommended. (2).

Not only in acute endometritis is the vaginal douche of value, but in the chronic form of that disease it is also recommended by the best observers as the greatest resource in our conflict with this disease.

Leucorrhoea is second only in point of prevalence, to one other disease of women.

The term as interpreted by various writers on diseases of women, varies in character. Leucorrhoea, in view of its nature, may be with propriety regarded as symptomatic. Still it can be better studied when regarded as a disease entity having various casuative elements, and types. It is in this way that Keating (3) views the subject. He divides the affection into: leucorrhoea of the vulva, vaginal leucorrhoea, cervical leucorrhoea and intra-uterine leucorrhoea. This classification is excellent, and points out the site of the disease and makes it easy to see the proper treatment, and its application.

In all the types of leucorrhoea the indication for treatment lies in overcoming the local inflammation. Internal remedies are not comparable to local treatment. It is the purpose to quickly subdue the inflammation and the vaginal douche will conduct the liquid directly to the affected parts, and no internal medication can be deing in solution one five or ten grains of borax to the ounce can be depended upon to accomplish a cessation of the leucorrhoeal discharge. But other remedies may have to be employed in certain cases.

Vaginitis—described by many gynecologists as a distinct affection, is not capable of clinical isolation in its distinctness from any forms of leucorrhoea which present themselves. It is how, ever, distinguishable from gonorrhoea, by the detection of the gonococcus in the discharge. This is best treated by the douche. The alum solution is a good one. In some cases a solution of sulph. zinc will be found the best remedy.

Gonorrhoea in the female is a disease which should not only for the patient's benefit be brought speedily to a quietus, but the remote effects of the disease is so disastrous as to give it special vital importance. The disease, invalidism, and the serious consequences render it the duty of every physician to use every effort to bring about a perfect and speedy termination of every case of gonorrhoea.

Vaginal douches of silver solutions are by common consent the most valuable agents we have.

The solution used by Hayden, is a

favorite with me (4). It is made as follows:

Argenti Nitrat. 1.00
Aq. Distillat. 500.00

This solution can be made stronger if that is thought desirable. I often use permanganate of potassium in the same amount, instead of the nitrate of silver, in making this solution. It is also an excellent remedy.

Dysmenorrhoea, after the free establishment of the menstrual discharge often speedily vanishes. In hastening the oncoming of the flow, and lessening the pain the action of the hot (100 F.) douche is the most simple, and at the same time the most effective remedy I have employed. A douche employed when the pain is in its incipiency is often quieted, and the flow brought on freely. In all cases where the flow is scant, or where there is associated pain the employment of the vaginal douche will be found of the greatest value. The use of anodyne drugs when the douche is employed will be rarely or ever demanded.

The employment of the vaginal douche as a means of cleansing the vagina is not fully understood by women in general. It is known that many diseases of the vagina and vulva owe their origin to filth and neglect. The physician should encourage his patients to use the vaginal douche with systematic frequency—by this means assuring them they can avoid much that is painful and disagreeable. But now let us deal with the employment of the douche. In the minds of many physicians any female syringe is the instrument to be employed and that any one, whatsoever, will answer the purpose. This is an egregious error.

The ordinary female syringes sold in the drug stores, will be found incapable of fulfilling the purposes intended by the physician. On this point I will quote the words of Davenport on the vaginal douche: "If taken properly they bring every part of the mucous membrane into direct contact with the remedial agent, and thus prevent the disease lingering in the folds and cul-de-sacs. To attain this result on the pelvic circulation three conditions are necessary: the water must be hot; it must be thoroughly brought in contact with the mucous membrane of the whole vagina, and the application must be a prolonged one." (5).

There is no syringe with which these essential requirements can be attained so well as in the employment of the Spray Syringe. It carries the medicament to the situation desired and retains it as long as it is desired. Besides this it fulfills another important mission, a most essential one, that of bringing, by dilation of the folds and cul-de-sacs of the vagina, open to the action of the drug used in the solution. In this way we are enabled to accomplish results which are entirely impossible when we resort to the fountain syringe, the old piston instruments, and other remedies—good as far as they go, but completely incapable of accomplishing the purpose intended. The Spray Syringe has a polished rubber tube five inches long. On the end of this is the whirling spray tip which can be easily and quickly removed for cleansing purposes. It has a bulb with a capacity of nine fluid ounces. Between the bulb and the vaginal tube is a safe rubber guard that plugs the vaginal orifice and prevents the escape of the fluid. By the use of the Whirling Spray the patient can herself, without soiling her clothes use the douche. The value of this instrument, in the treatment of the diseases of women can be estimated only by those who have used it in the treatment of female diseases, and who have noticed how quickly they yield when it is employed, that have remained obstinate when other syringes were used. In this case, as in others, thoroughness of application of a remedy only will bring to us the results which it is our object to attain.

References:

(1) Shoemaker's Therapeutics, page 106.

(2) A Compend of Gynecology, by William H. Wells, M. D., page 172.

(3) Leucorrhoea. Keating in Wood's Handbook of Medical Sciences, page 482.

(4) Venereal Diseases by James E. Hayden, M. D., page 78.

(5) Diseases of Women, by F. H. Davenport, M. D., page 101.

THE DOCTOR and BUSINESS SUCCESS

By G. O. DUNSETH, M. D.
Cambria, Wis.

The new practitioner is a source of amusement in a community especially if it be a village or small country town, where no place of amusements are open to attract the attention of old time gossipers.

After the student spends four years of his life in completing a high school education and possibly another four years in accomplishing a college degree, either Bachelor of Arts or Bachelor of Science in order to be accepted by a medical college; where another four years of hard work is pounded into his cranium, then if successful and the professors are not too formal he may be able to pass and receive his sheep skin, providing he has enough money left to pay the required price. All these years have allowed him to realize that he is not so bright as he once thought, especially about the time of his graduation from high school. From the above years of hard study there is another step, and that is before the members of the State Board who have the pleasure of making a test to see if there possibly can be anything that has escaped his mind unaccomplished, or possibly might at one time heard of, but neglected to remember. All this has passed before the young man realizes just where he stands, financially as well as professionally, and the question arises in his mind, where shall he open his office or has he gained enough confidence to go out and battle against a competitor or possibly it would be best for him to go to some inland town where no competition is known. Then some one will say, "Go west and grow up with the country." The last might appeal more to the young graduate than does it to the man of a little experience, especially if he has had the privilege of knowing something of the west. After the location is decided upon and he arrives at his place of business he then begins to realize the expenses of fitting up an office, buying a rig or automobile or just the mode of conveyance most suitable for the location. Then comes his line of drugs. Is he going to write prescriptions or do his own dispensing? After he is ready for business his office door is opened and his sign swings out in front for inspection and the gossip starts. Then is when the temptations of various kinds are thrown in his path.

Finally the hours pass by and the diurnal-illuminary arises and reflects its welcome light into his lonely office and swiftly sinks beneath the occidental horizon. At last a patient comes in. The doctor's name is by this time well circulated from garret to basement of every home in the vicinity and possibly been analyzed both microscopically and

microscopically, to see if there is anything in the name which in any way would lead the people to think of a criminal that might have taken the life of a slave in slavery time. The new doctor of course must be ridiculed and talked of as being related to that man. This is the common talk, and he has such trash as the above to live down. If he be of the right material temptations will have no effect. If his work has been good in college and his foundation well prepared he has nothing to fear. Young man, you should go to the place of your choice and settle down, whether be it a city or village, the location is of no consequence in particular. Competition is what will make you famous, the same as competition leads to success in business. Your competition may knock you as she does others but watch your chance and you will no doubt be in a position to show him as well as his people that he is not the only fish in the water. Stick to business. Stay out of sporting places and place of amusements. Go when you are called and make every call a hurry up one. Attend to an old chronic with the same zeal as do you that of an acute case. Don't advertise and become a quack as it is against the medical ethics. If your competitor ignores you, let him alone, but always treat him in a friendly manner when you meet him. Always be in a hurry and do not gossip on the street. Tell no one your business and keep bums and loafers out of your office. Be prompt in opening your office at hours specified. When called in consultation, be there on time but not too early. Put in most of your spare time studying, and occasionally write an article for some good medical journal and leave a copy of the journal in your waiting room so your people can see you are a man of interest. Be a member of medical societies and attend meetings when convenient.

Don't become disgusted with the first cases that come in, as a new doctor gets all the old chronics in the country that have been given up by most or all of his competitors in surrounding towns, and if a new physician is not fortunate enough to cure the case in a week or ten days, he is talked of as being no good. So be on your guard and figure up some good remedies for the chronics. After some time has passed and your competitor is busy and unable to handle all the acute cases, you will gradually fall in line, but as a rule the majority of such cases are the poor pay or slow pay and among those that won't pay at all. These come first. So bye and bye as time goes on your business will increase.

Study your diagnosis and treatments. Be sure you are right and go ahead, and remember every man who attempts to practice medicine was once as you are unless he be as some I know of in a western state. One town supported nine physicians and three of the nine were men of college education, the remaining six had never attended any sort of college. This is a common occurrence in some of the western states today.

Watch yourself and not become a crank on one drug, as a friend physician told me some time ago he knew a certain physician who used aspirin as his hobby and cure all for everything from chilblains and bromidrosis to blepharitis marginalis and sick headache, while some ride K. I. as a hobby and others ride something else. Keep clear of these unprofessional hobbies.

The following is a case which will give you some idea about what you will run across in your first few months' practice. This is one I experienced some time ago:

Case 1. A young man of 15 years of age, American born, complexion fair, light hair, blue eyes, weight 86 pounds —conjunctivae aenemic—appetite good bowels regular, urine examination normal, heart and pulse good, sleep good,

no cough, no night sweats, no temperature, no other T. B. symptoms. Father and mother in good health, brothers and sisters in good health, none dead, no T. B. tendency in family. Patient given up by physician and diagnosed as so-called "quick consumption." Second physician diagnosed as a ruptured liver. Both diagnoses seemed outrageous to parents and the writer examined the boy thoroughly. The lungs as well as other organs seemed to be performing their duty and all that could be discovered was the anemia, and I came to conclusion the boy was sick because the doctors told him so. Patient was put on Elixir I. Q. and S. and given his privileges which he had so long been deprived of, and allowed to play ball, go swimming, horseback riding and in fact allowed to do as other boys of his age, and came back in six weeks with a report of gain in weight of eleven and one-half pounds, and with other marked improvements. This case is an easy one. If the editor has no objections, I will be glad to tell you of others from time to time not so successfully diagnosed and treated.

MISCELLANEOUS

MANAGEMENT AND TREATMENT OF TUBERCULOSIS.

By J. P. Brandon, M. D., Essex, Mo.

It is not my object here to discuss the progress of this dreaded disease, consumption, and its care in the individual; this is more within the province of the attending physician and the trained nurse. The topic of most importance is the limitation and management of consumption. The very important role we as citizens have in the accomplishment of this is not hypothesis. It can be done, for it is in the power of man to cause all parasitic diseases to disappear from the world. Consumption is pre-eminently a parasitic disease, caused by the micro-organism which grows on living organic matter. We know that other diseases of infectious type and germ origin are being controlled. We have practically stamped out smallpox; no longer fear cholera—the terrible bubonic plague has so far been, to a degree, kept from our American cities. Diphtheria is curable and limited to a degree. Since the discovery of that great remedy, antitoxin. This was little dreamed of some years ago, yet here is a parasitic disease in which all germ cause is easily recognized, which is mainly caused by ignorance and carelessness and which can largely be controlled. It is curable and we permit it to hold unchallenged. In Germany the disease in the number of deaths from tuberculosis during the last 10 years has been about 50%; about the same in England. In New York the death rate has fallen from 42 to 40%; in Philadelphia the decrease in 10 years has been 43%. Upon the basis of New York and Philadelphia results being 40% of the estimate 100,000 victims among those now living there would be 40,000 lives saved in St. Louis, alone.

The limitation of consumption is largely a matter of education; the rich must be instructed, the poor must be instructed and helped. In France and Germany tuberculosis is being rapidly stamped out. Is not the average citizen of America as valuable an asset to this

country as those in lands beyond the sea?

The comparatively little that has been expended in any state or city for this purpose is the best investment ever made by that state or city for its citizens. Private instructions are found in most every large city; camps and settlements are being everywhere located—from the Adirondacks to the Mexican border, for it is now a proven fact that there is no special climate for the cure of consumption, but that it can be cured in most any climate.

I believe that consumption will be in the near future as easily controlled as pneumonia. Isn't it a fact that we see most every day scars from scrofula and lupus, which is no more than tuberculosis of the skin and glands. We see it healed, which is an evidence that tuberculosis is a most curable disease. However, the cure depends largely on the patient. He, or she, must make it their business to get well. Take plenty of fresh air, a little exercise which will aid digestion. We do advise our patients to be careful, for it is—we might say, through their stomachs they fight the battle of life.

I usually prescribe, more especially when expectoration is scant and tenacious, guiacal carb., in 5 gr. doses, preferably in capsule form, four or five times daily, if the stomach will tolerate it; or Carb Creosote, ten to twenty drops in sweet milk every three to four hours, or "Calcium Creosote," preparation put up by the Maltbie Chemical Co. of Newark, N. J., is splendid for the tubercular cough or similar condition in fact where any cough mixture is indicated. You can administer more creosote in this preparation than any mixture I know of, and the most delicate stomach seems to tolerate it in very large doses. You can obtain the "Calcium Creosote" either in tablet form or in solution, (Camphoric acid in 10 to 15 gr. every 3 to 4 hours is good). So far as cod-liver oil and such preparations are concerned I believe they only add more trouble—for this reason; they give rise to a poor, tardy digestion. Good digestion is of the greatest importance in any condition of life. I had rather depend on this and nutrition and not a dose of medicine, than poor nutrition and all drugs and serums put together. For "night sweats"—in my personal experience—I find nothing to equal arom. sulph. acid in 10 to 15 drop doses well diluted with water at bed time. This usually controls these sweats, no matter from what cause.

Some authorities recommend sulphate of atropine but in my hands it has never met the indications, while the former has never failed. Would insist on the patient staying quiet on cot or bed if temperature is 100 or over, for the least exertion tends to increase the heart's action and so raise the body temperature. It is not uncommon to find a tubercular patient's pulse running 120. The least exertion is liable to bring on endo-carditis. The patient must rest, he might need a little digitalis or strychnine sulph. in small doses. For specific indication, so far we have none, I am sorry to say.

Having had experience with—I am glad to comment on the watery ext. of tubercular bacilli, first advocated by Dr. Carl Von Ruck of Ashville, N. C. I am sure that a number of physicians are skeptical of this treatment advocated by the above, but they should be willing to give it a test before criticising it too far. A tubercular in the third stage does not expect any benefit from the watery extract, or in fact, anything else. Here is where we all make grave mistakes in the early diagnosis; as a rule they are so far advanced that medicinal or climatic influences will be of no benefit.

We, as physicians, are too careless in making an early diagnosis. It is not necessary to let our patients drift to the

stage that the common laity can detect their serious condition. The following few symptoms should be sufficient to any ordinary physician to be suspicious of tuberculosis; slight rise of evening temperature; rapid thready pulse; hacking cough, especially in the mornings; scant expectorations; patient complaining of sputum being of a sweetish taste; night sweats; and insomnia; gradual loss of flesh, pale and anemic; pleuritic pains; one very prominent symptom is the subnormal temperature of patient in the mornings. The physician should not rely too much on the microscope especially if he does not find the tubercular bacilli the first time or two. These examinations should be repeated. I am a great believer in the microscope and think the sputum should be examined a dozen or more times before the physician is satisfied. Much has been learned about this disease in the incipient stage. Practically all cases can be cured even without leaving home or giving up their employment; very few however are discovered early enough for this and in more advanced stages the majority can be cured or stay the process if proper conditions can be established and maintained for a long enough period of time. Among the poor, these conditions can only be established in "Sanatoria." How far the disease must be advanced before it becomes hopeless cannot be determined definitely at the present time; much depends on how much tissue is involved when a number of organs of the body are affected and how much tissue has been damaged. In a general way the loss of body weight gives a fair guide by which to guage the chances for recovery. A loss of one third of the body weight is very near the point where all chances of recovery end.

I do believe the watery extract is as near a specific as the profession has, and believe if it is commenced at the proper time and the proper care is taken of the patient, a cure can be effcted. I am glad to know that the tuberculin advocated by Koch is giving good results, especially for its diagnostic value. As a rule we find the tongue of the patient slightly coated whether or not they are running a temperature and it is well to treat the symptoms as they arise. I usually give small doses of calomel and soda, from one tenth to one fourth gr. every 1 or 2 hours, following with saline to thoroughly cleanse the alimentary canal. If appetite is bad, which is often the case, use small doses of Tinct. nux vomica and Fowler's solution. This is a splendid stomach tonic, as well as a general stimulant and tonic. Watch all secretions. For the pleuritic attacks that are so often met with use hot water bottle, hot salt bag, or an ordinary adhesive strip laced securely over affected side. For excessive and irritating cough use small doses of codiene sulph., doses to meet the indications. Over-action of the heart may cause rupture of blood vessels in the lung tissue and bring on hemorrhage, also stimulate extension of the tubercular process, therefore the burdens of the heart action should be lightened so that the circulation may be kept within the usual limits. The treatment of tuberculosis:

It is not a matter of giving drugs so much as regulating the patient's life and mode of living. Every action must be brought under control; not that drugs are useless, many are of the greatest value in regulating the abnormal actions of the disturbed organs and bringing them back to normal function and should not be used unless for well defined reasons; close attention to details is the key-note of success in the treatment of tuberculosis. Everything in the patient's life must be shaped to one end, which is, the normal physiological action of every function of the body. Whatever makes for nutrition makes for recovery and whatever interferes with nutrition helps to feed the disease.

Nutrition depends on three factors,

namely, food, air, and expenditure of energy. Therefore the treatment of tuberculosis hinges largely upon a sufficient amount of proper food and fresh air, the latter being a great appetizer within itself, and regulation of rest. Were I to select a special climate it would be some southwestern climate where there is no dust and where the winters are mild. Southeast New Mexico is as good as any climate; you can find most any altitude, the winters are reasonably mild with an even temperature which prevents sudden cold and la grippe. A fine prospect is desirable for the mental effect which it exerts on the patient; favorable view, woodland and water, make an ideal combination. I know of no prettier place than that about the French Broad River at Ashville, N. C. The climate is also ideal. Were I asked to select a suitable diet, I would suggest the following: eggs, raw or soft boiled, or in form of egg-nog; plenty of unskimmed sweet milk; jersey butter and cream (from a cow of healthy condition); vegetables in abundance, all of which must be fresh; good beef.

I would suggest outdoor life, night and day; pure air; little exercise when there is no fever. Were I asked to write a formula for the cure of consumption, it would be: Good horse sense well used; good diet, plenty of it; fresh air, 18 respirations of it, day and night; plenty of rest and a contented mind.

With best wishes to the editor.

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We are anxious to have reports on the inspection of the health of school children, where it has been tried, with a full statement of all difficulties that have been encountered. This is one of the live issues of the day and of interest to many of our readers and many communities.

We are expecting you to be the first one to reply to this "Query." Please do not neglect nor forget to do so.

THE HOUSE FLY.

By Dr. J. W. Lockhart, St. John, Wash.

Some years ago a laboratory scientist who knew little or nothing about the natural history, genesis or habitat of the house fly, threw several chunks of questionable information together and, mirabile dictu, there blazed out several columns of scientific newspaper space-filler under headline danger signals. Since then this creature of an unscrupulous imagination has been accepted by both the laity and the medical profession as uncontradictable scientific data. Such credulity might well be expected among persons not trained to scientific habits of thought, and with no inclination to investigate, but that such should be the case with medical men is inexplicabe, except that it affords an easy explanation for otherwise recondite matters.

Even in so careful and considerate a Journal as the Medical Recorder we find statements in regard to the house fly that are unsupported by scientific investigation. In the number for December, 1911, we read: "This dangerous pest is unknown except where filth accumulates and furnishes a home for their larvae . In frontier portions of our country they are not seen until civilization makes its appearance. One good thing can be said for the fly, however, and that is that it serves as a warning to us of the neglect that we have shown in the disposal of offal and filth about our homes."

That is, of course, the generally accepted scientific data in regard to the house fly; and I hope to be pardoned for asking, in a spirit akin to skepticism, how does it tally with the real facts in the case. I wish to say that for a number of years I have been interested in the fly, his natural history, modes of life and literature; and have studied him much at first hand. And in writing this article I am not unmindful of the fact that in no other way can a man so

easily lose his reputation for learning, and truth and veracity, as to assault some universally accepted superstition or pseudo-scientific theory. However, devotion to science and the truth compels me to state some well observed facts in regard to the fly.

In the first place I am convinced that the fly is not in any sense of the word a lover of filth or any other decayed matter, animal or vegetable. As a rule he is a very cleanly little animal that abhors filth and only resorts to it in case of extreme necessity. He congregates in promiscous confusion in the cleanest kitchens and dining rooms, and if in a filthy kitchen is invariably, as if by choice, found congregated upon the cleanest and most wholesome foods. It is an old saying that "Vinegar never catches flies," but molasses will; and it is far from necessary that the molasses should be otherwise than in accordance with the pure food law. In fly time set out on the kitchen porch a nice clean pan of fruit parings and several feet away place a pan of well decayed fruit and the little fly will soon demonstrate his choice. No rotten fruit for him when better is obtainable.

I do not mean by this that no single fly will light upon or remain on the decayed fruit, there may be special reasons such as old age, injury, decrepitude or a general indisposition to exercise that prevents them seeking the better quality of food, but the large proportion that do seek the better food is convincing, or ought to be. Every observing housewife knows that it is the very best food in her kitchen and on the table that flies attack the most vigorously. I believe that the house fly resorts to filth only from sheer necessity and then only to a very limited quanity of so called filth.

It has been said, and truly so, that the fly will carry filth and disease germs upon his legs. Some sick and lazy flies certainly do this habitually; but the well and active fly endeavors to keep his legs and feet scrupulously clean and if poluted will make strenuous endeavors to rid them of all foreign substances.

For several winters I have permitted some flies to live over in our dining room and long before the weather is sufficiently warm for flies to hatch or propagate out of doors I have no difficulty in finding them in doors. And I would most strenuously resent the imputation that there are here any of the filth conditions said to be so absolutely necessary for the living and propagation of the fly.

In this country it is customary to sumerfallow large tracts of land so that one may stand in the middle of a thousand or more acres of this plowed land and a long distance from any human habitation or any filth other than the very small amount of vegetation plowed under and well covered. In these fields I have discovered large numbers of flies during hot weather and when there had been no rain for six weeks. Where did they come from, why were they there and what did they subsist on, are legitimate questions. It may be argued that these were not house flies. I will not insist that they were. I caught some of them and examined them whole under a powerful magnifying glass and could discover that they were not in any way different from the house fly that I had examined so often. Next I dissected the specimens and examined them under the microscope, the legs appeared larger than lead pencils and the wings larger than my hand, other parts in proportion, but it was impossible to discover that they were in any way different from the ordinary house fly. There is a fly that closely resembles the house fly, but it is a blood sucker, while these were not. What then is the legitimate conclusion? Are these flies identical though far apart in their habitat and condition of genesis or propagation, or are they two distinct species, the one loving civilization and filth, the

other, exactly similar, to all appearances, but loving the solitudes as far away from civilization and filth as possible? Men who have traveled the country over, far from the haunts of men, tell me that wherever they pitch their tents or cook their "grub" the fly is there, and whether or not it is the old house fly, he acts just like they do at home.

While it is true that flies sometimes transport bacteria, it is also true that he is one of the greatest destroyers of bacteria, and not only that, but by destroying or consuming the food upon which bacteria develops he prevents their development. Sun light confessedly destroys most disease germs in great numbers, and the fly loves to bask in the warmest sun, no rays are too warm for him. When he carries disease germs he carries them, for the most part, into the destructive light of the sun. The real question then, is not whether the fly carries germs but whether or not the good he does in destroying them more than counterbalances the harm he does by inoculating the well with such bacteria. The time was, not many years ago, when the birds were considered a great pest and nuisance to the farmer; now they are known to be a special friend, and we have stringent laws in most states providing penalties for their destruction.

The fly infests the closet vaults in the country only when they are light and warm; keep them cool and dark and no fly can be found there. When you have a sick room infested with flies open a door or window where the warm rays of the sun can shine in and the flies ladened, perhaps, with disease germs will go out rather than come in; they will carry their loads of germs into the warmest and most germ-killing sunlight.

I once treated a case of typhoid fever in a man who was the father of ten children, in the month of August, and in a house of two rooms and perfectly innocent of any such thing as a screen of any kind at either door or window. The flies swarmed in myriads around the patient, and the only protection he received from them was a piece of mosquito netting and the fly brush. Here was a place for the fly to do its worst, but no symptom of typhoid showed itself in any of the children or other attendants.

I have in mind numerous instances of that kind, but one is enough for the present purpose. I look far beyond the fly, or the germ either, for the real cause of typhoid fever and have been rewarded with a success in the treatment of those cases of which any man might well be justly proud.

It must be borne in mind that I am not writing so much in defense of the naughty fly as in defense of scientific truth, however homely and insignificant that truth may appear to some superficial observers. Prove all things and hold fast to that which is good.

VANADIUM SALTS IN THERAPEUTICS.

William R. D. Blackwood, M. D., 852 N. 23rd St., Philadelphia.

Through the courtesy of Dr. Francis M. Turner, who has done so much to advance improved remedial agents in medicine, I have had unusual opportunities to investigate the salts in question which, though known and appreciated abroad, particularly in France, are yet strangers to the mass of our own therapeutists. I propose to condense my remarks as much as can be done within due bounds, and thus go into the merits of certain of these salts under ordinary conditions which present themselves to the general practitioner and also the specialists in certain directions. My first inquiries were in the frequent anemias both nuerathenic and of those conditions arising after acute diseases in both children and adults the former

class coming under my notice frequently in connection with my electrotherapeutic work. I have placed twenty-five persons under the salt known as Vanadiol, and during the past two months each of such patients have rallied much better than under the canonical tonics, many of which are not readily borne through the stomach troubles common in such instances. In a very bad case of cholera which was fast dropping into a wretched state of debility despite all ordinary tonics the child began bracing up in about a fortnight under ten drops of the Vanadiol, and when the dose was gradually increased to fifteen she started to gain both color and strength, and in six weeks she was able to return to her studies which had been dropped through absolute inability to even read, let alone study. Most of the rest in the nervous class were women who suffered from uterine or ovarian difficulties, and whilst the pain was promptly removed, by electricity they did not come up fast enough in my opinion toward the requisite strength till they were pretty well saturated with the Vanadiol, and I may here say that I do not agree with the French doctors in holding to small doses such as five drops three times daily. I give all hands ten after a few days trial, and gradually increase to fifteen or sometimes thirty-four times daily. Always give plenty of water with the doses, and do so at least an hour prior to meals. Since quitting my hospital work because of trespass on my time, I have not had much opportunity to see phthisis people, they having lately fallen into the clutches of the prevalent tuberculosis quacks who are working this latest fad for all it is worth to them, and many a poor invalid has gone the journey through this stupid and sinful racket who otherwise might have held on a while longer, but the cramming of stomachs with food not capable of digestion or assimilation soon shuts off the only avenue for gaining strength and the additional fresh-air busienss in due time gives them bronchial trouble, often pneumonia, and away they go where fads and humbugs don't trouble them. Of course, ventilation is a good thing—I see to that all right—but I don't care to have my consumptives lie with their heads out in the snow and rain as lots of them are doing not far from where I write, but, some practitioners must work all new productions whilst the craze lasts as happened for so long under ovariotomy and cliteridectomy—succeeded by the now fortunately waning appendicitis butchery—"we need the mon!" once was told to me. But whilst I don't see much tubercular trouble just now, my nephew who is as a young man interested in the prevailing crusade against the great white plague, has plenty of chances to work the matter out, so I avail myself of his practice, and under my direction he is experimenting with both Vanadium internally and Vanadioseptol by inhalation and hypodermically, and the outcome, is, in his opinion, quite favorable —the patients gain strength and color —the cough is perceptibly lessened, and the breathing is not so labored. I give this for what it is worth, but in passing I may say that this young doctor is smart and capable beyond the usual lot of beginners. Some people recovering from typhoid are doing quite well under the Vanadiol—they seem to pick up better than usually is the case. In pneumonia the results are very good, indeed, the claim that oxygen is liberated in the blood-column is almost certainly borne out as quite true—anyhow the lividity lets up soon after getting the sufferer well saturated with Vanadiol, and lately in the few cases coming to me I have given the inhalation of Vanadioseptol a thorough trial, and apparently with fine effect. In the winter bronchitis so common just now I am getting quite good satisfaction—by adding the salt to the cough remedy—and my main preparation is the syrup of wild cherry with or without some Ammonium Bromide

and sometimes a drop or two of dilute hydrocyanic acid. Now I add a few drops of Vanadiol and with what seems to be, nice effect.

Surgically I am treating a recurrent carcinoma which was operated on a year ago and which till the nodule was removed in the cicatrix, lately was quickly gaining ground again, by giving both the Vanadiol internally, and the Vanadioserum locally—the growth is certainly better—the pain which was intense is lessened, and the general appearance of the woman is much better now. She is doomed, of course—there is no doubt that the malady is coming into prominence in the spleen and probably the large intestine or the messenteric glands overlying the region, yet she is certainly much relieved. In eczema I have had some good results through the Vanadioseptol, or the Vanadioserum, and the powder known as Vanadioforme also is quite efficient in skin troubles of this nature. The Vanadioseptol is very efficient in pyorrhoea, and is as a routine wash valuable in mouth disorders.

I do not care to enlarge at present but I give the above as indications of what may be had through these new salts for use by general practitioners who see work of this nature, and after a while I may add something if the editor cares to have me do so.

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QUERIES.

1. Why do young doctors lose their cases, by having some other doctor asked to take them away from them?

2. Best method of treating infected wounds?

3. How can open wounds be treated to prevent infection?

4. What drugs shall be carried in the medical satchel?

5. How treat the ordinary uncomplicated case of pneumonia?

6. Why don't you tell us of some of your mistakes, anonymously of coures?

A TALK WITH A MARTIAN.

By W. T. Marrs, Peoria, Illinois.

It was a little late when I got to bed the other evening. A friend had invited me to "one of those pleasant little affairs" where the food is called "viands" and is served with French names and in the most appetizing manner. We common herd of doctors are of course unaccustomed to such sumptuous spreads except occasionally by request of somebody who wants to work himself into our good graces for some specific purpose, all of which latter is neither here nor there nor anywhere else.

I am not a stranger to callers at all unseasonable hours of the night but on this particular occasion I was somewhat surprised, and afterward edified, by an unusual visitor.

"Who is it?" I said in my usual after-midnight tone in answer to a ring of my doorbell.

"I'm from Mars," came the answer, "and I thought I'd like to have a little visit with you."

"Of course you've seen my sign and know my name's Marrs," I replied indignantly, "but I'll tell you right now, stranger, that old con game of working your alleged relation don't go here."

The man explained matters to me in such a kind and affable manner that I was ashamed of myself for having seemingly been rude. He said he was a Martian, a denizen of the Planet Mars, and had just dropped down in his air-craft from his far away home. He had scheduled himself to arrive on earth at about dawn, but through some error in his sky chart he had gotten into a swift-moving air current and thus arrived a few hours ahead of time.

"Yes, I observe that you are a physi-

cian," he continued, "and as I chance to be the same I felt an impelling desire to call on you. Of course in our country the terms "doctor" and "physician" are not employed as they are here."

I began to take a keen interest in my strange visitor. We were now lolling lazily in my easiest library chairs and my box of havanas within easy reach. He seemed to enjoy a quiet smoke as well as if he had always lived on earth.

I found this gentleman, whom I shall call Prof. Martian, a man of profound wisdom and learning. Not the boastful, showy kind, for I have never seen a man so modest and with no evident show of pride on account of his erudition. While he was a physician, yet he seemed more a metaphysician. On biology, sociology and all the altruistic knowledge that go to better mankind he was proficient. His information was not merely academic and easy-chair in character, but he impressed me as having had hand-to-hand experience in the matters under discussion.

Although Prof. Martian was too polite and considerate to freely admit it, I could see that he had paid this visit to our country to study our adverse medical and near-medical matters. If he should have been sufficiently brazen to express himself freely about some of the things here I am sure he would have called them "rotten," although only we uncouth earth-ites use inelegant slang terms.

The Professor looked on all subjects from a broad point of view and to the ultimate betterment of conditions, rather than to little matters of the piffling present. When I asked him "how he found practice in his country nowadays" he seemed a trifle disconcerted and hardly knew what to say. We doctors down here when we get together talk about our cases and this or that stuff we are giving them, how our surgical cases are coming along and how some old skinflint of a doctor is trying to corner all the practice. We also put one another next to the deadheads (except when we want some one in particular to get soaked too) and also exchange ideas on how to cure typhoid fever and whether hot or cold air is best to annihilate the bugs in a lunger. This stuff didn't make a hit with Prof. Martian, if I may express the thing in naive terms. I would try a different tack and strike a common level with him somewhere. If there is any classy and common ground in the profession it is in hospital and institutional work.

"So far as you have observed, Professor," I began tentatively, "how do our hospitals compare with yours?"

"We have few hospitals at home," he said.

"But do you mean to tell me that all the injured and afflicted and the post-operative cases are cared for in the home?"

"Oh, we do have hospitals and sanitoria to be sure, but they are not needed in anything like the number or capacity that obtains here in this ——— United States, I believe you call it."

I began to think that perhaps after all the Martians didn't have so much on us. Few hospitals and eleemosynary institutions! These are the real evidences of humanity and civilization. I expressedm yself quite freely again — and then again I was ashamed of myself after my visitor had explained conditions.

"You speak of the injured," began my distant brother — or maybe long-distance brother would be better— "we seldom have an accident or an injury up home. I understand you had 15,000 people killed here last year by the railroads. Our railroads have the safest and best equipments and never kill anybody; they don't dare do it. Neither do our automobiles take life, nor other agencies of transportation. Our laws do not permit fire-traps, falling buildings or debris or anything that will in any way imperil the lives of our people. So we have little need for hos-

pitals, although those that do require it get the very best of attention."

"And how do your surgeons rank?" I queried.

"I was coming to that point," continued my remarkable visitor. "We have the finest surgeons on any of the planets; of course this is the boast of every world and I suppose the assertion is pardonable pride on my part. We banished syphilis and all venereal diseases a century or two ago and since then most of our surgical diseases have vanished. I hear you have a great deal of it down here. I hear the way your women have to be cut up for suppurative conditions as a manifestation of specific infections is ——— is a fright." I noticed that the Professor was already getting on to some of our peculiar American vernacular.

"Nearly all constitutional and so-called blood diseases having been routed with us and with consequent integrity of tissues through several generations we have found that nearly all surgical diseases have gone out. We do not have cancer and devitalizing ulcerations and broken down and disintegrated tissues as I hear you have so much of in this world. Our people haven't much of anything to cut out or sew up."

The last sentence suggested another query and I asked how they handled their appendix cases in this land of thoroughbreds. To tell the truth, I was becoming a bit jealous. I didn't like to see my own people and my profession among them held up to ridicule. Of course I was eager to learn but at the same time I am "earthy." His comparisons, while couched in polite terms, were a little odious. Comparisons are always odious — to the fellow on the wrong side.

The Professor smiled at the mention of the appendix. "We don't have appendicitis," he said emphatically. "I understand that you have been having it only a few years. In rare instances we do have a suppurating appendix as a concomitant of some other disease, but the idea of removing this little redundant bit of tissue and making the owner of it pay a stiff fee for the privilege of getting rid of it ——— we don't do it. In fact the law does not allow it. Before a major operation of any kind can be performed a board of censors of recognized standing morally and unusual ability professionally must pass on the matter. Once in a while some crafty fellow bobs up and thinks we have too many restriction on this matter — red tape they call it—but it is the kind that conserves the interests of the people."

I felt a little confused at these remarks. I had a couple of appendix jobs scheduled at the Mercy Sakes hospital that very morning. I was just about to ask my learned friend—if I could call him a friend—to accompany me and see how we did the trick. But nix on the invitation now.

I was afraid to ask any more fool questions. The Martians were so different—or else the Professor was a cheerful liar. I began thinking perhaps after all we were not quite perfect.

But the Professor continued to talk without any promptings from me. His people were so perfect in their habits and manner of living, and their social and industrial conditions were so devoid of friction, and diseases had been so effectually wiped out that there didn't seem to be much doing in the surgical and medical line. They had gotten rid of tuberculosis ages ago. They have no congenital blindness or blindness from early childhood since they killed the last gonoccoccus. The people do not use their eyes badly and never have to wear specs. Their print is larger than ours and they don't read so much, but think more. The only eye troubles are found in old people. "Opthalmology" is not in the Martian lexicon. They have no specialties.

"No specialties?" I butted in again in my fool way.

"No," he remarked nonchalantly, as he helped himself to another one of my choice cabbage leaves, "we don't need them. There's nothing to specialize on."

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PHYSIOLOGY OF MARRIAGE.

By D. L. Fields, M. D., Jeffersonville, Ind.

In my third paper, I advocated long acquaintance by those who were in love with each other; as plenty of time should be taken to know each other's disposition, character and physical qualifications.

It may not be construed as out of place to mention my own courtship and marriage. I do so, to illustrate the above statement. I was engaged to my wife for over two years, previous to our marriage; and I made no mistake. She is a woman of fine character, sensible, discreet, and a good Christian, which she exemplifies in her daily life. Everybody who knows her loves her. She comes of sturdy, Scotch-Irish stock, and as may be supposed, is a devoted Calvinist Presbyterian! "None know her but to love her; none name her but to praise.".

In these times when our courts are burdened with divorce actions, because ill-mated unions, cruelty, failure to provide, immorality, incompatibility, and drunkenness, it may not be amiss to digress from the physiology of marriage, to consider some of the moral and social aspects of the relation. In the higher and wealthier circles of the fashionable world, marriage is lightly held, and its sacred obligation is hardly considered. They are marriages for wealth, and position in society! As to the purely domestic feature of the relation, it don't seem to be considered. Pure love, which never fails in any sacrifice, is not in it. When it comes to a reverse of conditions, love (?) vanishes. The event of marriage marks an important era in the life of a young female. It introduces her to new and serious relations. It devolves upon her cares, duties and responsibilities, to which she is a stranger. It may lay the foundation for a life of bitterness, or one of happiness. If it is not a happy event, all regrets are unavailing. She should not pledge herself without careful deliberation; as every one knows that there is no department of human experience which is so fruitful of wonderful occurrences as this; and one of the most singular of all is, that a young woman will pledge her hand to a man after an acquaintance of but a few days, or perhaps, hours. Such a chance may be all right sometimes; but no female who makes such a rash experiment has a right to calculate upon anything else but disaster. Such is the rule. If a mistake be made, it will only be rectified in the grave.

One of the gravest mistakes a young woman can make is to marry a man whose age is greatly disproportioned to her own. It is a violation of good taste, and the law of nature. Besides, it is exceedingly awkward, if not disgusting, to see a young woman going around with a man perhaps triple her age. All who see them are puzzled to determine whether they are husband and wife, or father and daughter!

Physiological law is violated. There cannot be congeniality, physically nor morally; and soon she will be called upon to nurse a superannuated old man, at the very time when she may possess the buoyancy and bloom of young womanhood. It may be respectable to be so mated, but it is a great pity, and must become humiliating to both.

Of all the beasts in the form of man, the ill-tempered, fault-finding animal is the most detestable! There can be nothing which will wreck a good woman's life as surely as to be tied to an irritable over-bearing brute. To feel that all her best efforts are not appreciated, and the

stern hand of power ever stretched over her timid nature, instead of the soft arm of affection laid beneath her, is enough to embitter the life of the most amiable of women!

Young woman! do not marry an ignoramus! You can never be happy with a man whose ignorance would cause you to blush. Then think of a bright woman being bound for life to a man who "puts his foot in his mouth" every time he opens his lips!

Never marry a man of questionable morality. If he has the slightest fondness for the gaming table, you will almost certainly come to grief, sooner or later! And what is worse, alcoholic indulgence is almost invariably a concomitant of gambling. If a man proposes marriage to you; take time to carefully investigate his habits, and character. It will pay!

So much along social lines! To resume consideration of physiology of marriage, I would say that there are difficulties connected with the subject of matrimony which are not apprehended by the great majority who enter upon that career. Some of them have their origin either from a lack of knowledge, or mistakes of early education. The educational errors present matrimony to the young under false colors. A part of these errors are chargeable to parents themselves; and part to the self-willed, headstrong character of the young. Young persons are anxious to know the whys and wherefores of many things; and especially as they approach manhood and womanhood, do they seek to know themselves physiologically; but they would know the hidden truth about the marriage relation, and its natural sequellae. For example, the children, very naturally, are curious to know where the babies come from; and the modesty of parents prompts deception. Instead of the doctor "finding it in a hollow log" and all such deception, it would be better, perhaps, to say that they are not old enough to understand how the babe came; but that when they become old enough, they will know. If children are deceived by the pretended revelations of the nursery, they will be laughed at by their older playmates, and the false statements will be discovered to the discomfiture of the uninitiated. It is human nature to magnify unduly that which is consealed from us; especially if it is practiced by those we love, and in whom we confide! Children are not those half-senseless dolts they are supposed to be, and they are curious; can apprehend readily, and have thoughts! They think a great deal about things mysterious, and they are very apt to investigate the things they don't understand!

But as to prerequisites for marriage. God said: "It is not good for man to be alone," and to disregard it, is to ignore the decree of heaven. Who does not know the narrowness and selfishness of celibacy? Who that has lived long can be ignorant of the fact that it is generally the pathway to demoralization. All children should be trained with a view to an honorable marriage. Not that it is a physical or social union, but that it is a union where two are of one flesh. It is of divine appointment and should be regarded indissoluble. How often is it asked when a couple are joined together in wedlock, "Has she married well?" Of course it refers to whether such union promises wealth, social position, and a prosperous, happy future. This is nature. But how few regard it as the great end, and aim of life? and how few realize the physiological consequences it brings?

This city, Jeffersonville, Indiana, is pretty generally known as the "Gretna Green" for eloping couples from Kentucky, who are married here. The magistrates do a flourishing business in uniting these runaway couples. A vast majority of them are merely chance acquaintances. From 800 to 1,000 couples are thus married here every year! About as fast as they are "tied up" here, they are untied in Kentucky divorce courts.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Janesville, Wis.

Syrup or elixir of rhubarb and potash (syr. rhei. et potassa) formerly known as "neutralizing cordial," if made according to the original formula, as written by Dr. John A. King, Cincinnati, Ohio, is one of the best medicines, if not the very best, that has ever been devised or used for disorders of the stomach and bowels.

The true formula can be found in the American Dispensatory and nowhere else in book form. There have been many attempts to improve it by modifying it in various ways, but we have had opportunities to prove to others, as well as to ourselves, by the most careful clinical tests, that they are failures.

We consider it very important that the proper menstruum be employed, and that the medicine be prepared in strict conformity with the rules laid down by it's discoverer. Giving from ¼ to one teaspoonful in a little water after each movement of the bowels, according to the age of the patient, will promptly correct many cases of diarrhoea and dysenterry. In the latter disease, where the very annoying symptom, of an almost constant tenesmus is present, as it is almost certain to be in neglected or long-continued cases, the use of proper sized doses of tincture of opium in thin flour starch, thrown into the rectum with a syringe in about one ounce quantities of the starch, to be retained as long as possible, will prove very helpful and give the patient much relief. The lower bowel should be thoroughly flushed out, immediately preceding the use of the starch and opium.

A folded cloth pressed against the anus immediately after the injection has been given, will materially help in having the enema retained, especially in the case of small children and infants. This remedy can be given as often as every hour if required and has the merit, that it will not constipate, as it contains enough rhei to prevent that effect. Those who have not used this remedy, nor studied its composition will be interested in the following copy of the original formula. It is a most excellent remedy in nausea and in ordinary attacks of acute indigestion and as an antacid. This is clearly shown by the formula:

Rhei, (in coarse powder), India .....oz. viii
Potassa Bi-Carb. .....oz. viii
Cinnamon, (powdered)..oz. iv
Hydrastis, (powd.) ....oz. iv
Sacch. Alba. .....oz. iii
Spts. Vini Gallici .....0 i
Oleum Menth. Pip.....dr. i

Macerate all but sugar and oil peppermint in the brandy for 48 hours, then press out the tincture and add oil of peppermint, cut in a little alcohol. Add warm water to the residue till the strength is exhausted. Evaporate this to four pints and add sugar while hot and add to the other ticture part, making 1½ gallons.

Of course it can be made in proportionate quantities if preferred.

PASSIFLORA.

Passiflora incarnata is an extremely valuable remedy in the diseases of childhood.

As an anti-spasmodic in all cases of nerve irritation it proves reliable and leaves but little, if any depression.

It is very important to know that it is a safe remedy and that it can be given in doses that will produce the desired effect, without danger of any bad effects following its administration. We have used it in from five drops to one teaspoonful at a dose, in some instances frequently repeated, till the desired effect was attained.

Usually the smaller dose will be sufficient in ordinary cases, such as symptomatic convulsions, and restlessness ac-

companying any diseased condition. In cerebro spinal meningitis it is often necessary to give full doses. In this disease it has seemed to work wonders in a number of cases, in which we have been called in consultation, where the attending physician was greatly surprised to see the patient improve and recover, although thought to be beyond help. It has helped some severe cases of tetanus too that we have seen and we would advise its use even if the antitoxins are used in these two diseases. The Passiflora was used in most of my cases of these diseases before the antitoxins were developd.

In one case in the summer of 1911, the attending physician had the meningitis anti-toxin in the house ready to use, but became so well satisfied with the use of Passiflora, that he did not use it and the patient, a boy about ten years old, recovered with no other deficiency remaining, except that the vision in one eye is entirely destroyed.

The patient lay for days in a semi-conscious condition, most of the time in an extreme condition of opisthotonos and with involuntary actions of the bowels and bladder.

He has been very well ever since and has unimpaired mentality. It is important here, and always to have a reliable preparation of the drug.

In one case several years ago, where the remedy had been given without the necessary attention to this, the attending physician, in consulting with us said, it is no use to give Passiflora, I have tried it out thoroughly. We said let us go to your drug store and see what kind of a preparation he has. We found it to be an old inert fluid extract and when a reliable preparation of the drug was secured, improvement was immediate and satisfactory. Please send in your own notes on these remedies or ask further information from our readers if interested in them and you desire it.

THE MONEY VALUE OF A CHILD'S LIFE.

An estimate obtained by making a careful comparison of the figures given by persons among the middle class of people, as far as wealth is concerned, seem to show that each baby costs someone in the first six months of life, from $75.00 to $200.00, providing it has been a normal child and has not been sick much.

This amount includes the extra expense of all kinds due to the advent of the little one. While making the necessary inquiries to find out the actual cost and facts in these cases, it was found in some instances that mothers were obliged to, not only do their own work, but to work for others when their children were only a few days old, in one instance doing a washing for others, when her infant was only three days old, to get money to sustain her life and that of her infant.

No wonder that so many children perish before they are one year old. Still there are some persons who are raising objections to the very proper and commendable law recently passed in Illinois permitting the pensioning of indigent mothers who are nursing and properly caring for their offspring.

This plan is not only humanitarian but it is good policy from a purely civic financial standpoint. It costs from $25.00 to $75.00 to bury these little innocents when they have been killed or allowed to die, (someone please tell us what the difference is), and many times the municipality or county has to pay this bill and a money loss, of actual expenditure in many cases of $100.00 to $250.00 has been suffered, besides the anguish of the bereaved parents and often the loss of a good citizen embittered and discouraged by the loss of their little ones, whose presence in their home would have helped to keep them at their work steadily and given them an ambition to live a good life for their

sakes and care for them as best they could. One seventh of the average financial loss will keep a nurse at work helping these people and instructing them and demonstrating to them how to properly care for the children and save to the state useful and productive citizens. Added to this ½ of the remaining 6-7 of the average sum of money lost, in caring for the mother and feeding her during the first few weeks of her child's life and one can easily see how the state, county or city has made the best kind of an investment, viewed from any direction, even the most selfish and least humanitarian.

QUERIES

ANSWERS TO QUERIES.

By J. P. Brandon, M. D., Essex, Mo.

For Indigestion: First of all restrict the diet. Leave off all alcoholics if patient is a dram drinker, coffee, all forms of tobacco. Put your patient on soup and milk, grape nuts or most any of the breakfast foods, and plenty chicken soup, poached or raw eggs, and then regulate bowels and place your patient on P. D. & Co's Liquor Taka Diastase in teaspoonful doses during and after meals. Also the following:

℞

Tinct Nucis Vomicae.. ..ʒii
Liq Potassa Arsenitis .....ʒi
Elix Lact Pepsin.....qs ℥iii
M. et. ft. sol.

Sig. Teaspoonful half hour before meals. Also give the following tablets:

Papain, P. D.s tablets, 4 or 5 times a day, and then in course of 3 or 4 weeks report through your Journal the results of your case. Now I am satisfied some one of the readers may not like the idea of prescribing so freely the Liq. Taka Diastase, as they may not believe in these preparations, but what do we care what it is, where it comes from, and so on, so it does the work. I am not a skeptic, neither am I a believer in close communion, from a medical standpoint of view, or religiously. I take that which is good, and try to cull out the other.

Rheumatism: Much can be said about this dreadful disease, but will say there are but few drugs in my experience that have any specific action therefore I will not discuss the matter only very briefly. Usually when called in case of rheumatism I place them on some cathartic, preferably small doses of calomel. Follow with saline. Cleanse the alimentary canal. Also give some good diuretic, the Acet. Pot, or Elix Buchu Juniper and Acet. I also use Salol in 5 gr. doses as often as every 3 to 4 hours. I give Sodii Salicylate in some form. However, don't believe this has any curative effects, but if pushed to the limit it helps to relieve the pain and a more reliable remedy is the original aspirin given in 10 to 15 gr. doses every 3 to 4 hours, has proven very satisfactory in my hands as it relieves the pain and aches so often noticeable in rheumatism and kindred affections. Hot sponge baths are often of great value; the use of hot liniments in my experience has been of little or no value. I would in all cases place the patient in bed under woolen blankets and restrict the diet to liquids such as milk, broths, soups of various kinds. With best wishes to the Recorder and its readers.

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Do you like our idea of asking for photos of our contributors, that you may see something of what they look like?

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.
Janesville, Wis.

CARBON DIOXIDE SNOW IN OPHTHALMIC WORK.

Carbon dioxide snow during the last few years has been found to be a valuable therapeutic agent in a number of pathological conditions. In ophthalmic practice it has a field of usefulness. Leonard J. C. Mitchell, M. B., of the Royal London Ophthalmic Hospital read a paper at the recent meeting of the British Medical Association giving the uses of carbon dioxide snow in ophthalmic work. The following is from his paper as published in the British Medical Journal:

In treating lids affected with follicular conjunctivitis of whatever origin, it was found that the best way to avoid burning the bulbar conjunctiva and the skin of the lids was to evert the upper lid and direct the patient to look down strongly. Then the everted lid is pushed down over the globe till it touches the lower lid. The snow is then applied to the everted lid and is held in firm contact with the conjunctiva over the tarsal plate for from ten to fifteen seconds. When it is removed the conjunctiva is frozen hard onto the tarsal plate. This is allowed to thaw before the lid is released, and, as a rule, a little weak ointment is put on the conjunctiva before it is allowed to come into contact with the globe. Cocaine before the application of snow is unnecessary.

In rodent ulcers the method is to a certain extent obvious, but it has been found that by persistently applying snow to the raised edges of these growths the cure is much more readily effected than by applying snow all over the diseased area at each sitting. As long as there is a good scab in the center of a healing rodent, and this can be kept clean, so long will the freezing of the edges—which are always advancing inwards—hasten the cure in the most rational manner. The freezing of the center parts of such a growth need not be done more than two or three times in the treatment.

In trachoma the use of this reagent was widely tested in the trachoma clinic at the Royal London Ophthalmic Hospital and the diagnosis of the disease in all cases was undoubted, some of the cases having attended that hospital, or other London hospitals, for considerable periods without being much relieved. It was found that the application of carbonic snow to the conjunctiva covering the upper tarsal plate was sufficient to bring on a violent vascular reaction in the whole conjunctiva, and the beneficial results must be attributed chiefly to this inflammatory reaction. Except in few cases—and those at the beginning of the observations—it was found more efficient as regards relief of symptoms, and more comfortable to the patient, to carry the freezing just so far as not to destroy the conjunctiva entirely. Aplications were given about once in ten days, and the average exposure with a hard pencil and a pressure of about six ounces was from ten to fifteen seconds. Owing to the subsequent congestion of the conjunctiva, it was found advisable to treat one eye at a time. Cases which had a history of some months were found to stand a longer exposure than recent ones, owing to the thickening of the conjunctiva and the admixture of fibrous tissue.

In all 37 cases were treated and watched for six months afterwards. In 7 of the cases there has been no suspicion of the return of the disease. In every other case the relief afforded was rapidly

attained and lasted for a longer or a shorter period; relapse could always be controlled by another application of snow. Pannus and ulcers cleared up in a remarkable manner in all cases. Expression with roller forceps or other drastic methods for dealing with the follicles was found unnecessary, for the nodules dissappeared as a rule after the first application. It was also noted that the periods of comfort lasted for increasing intervals, and in most cases the patients themselves ask for further "snow" treatment. Concurrently with this treatment the strong antiseptic method of ocular hygiene was persevered with.

In naevi of the skin of the lids the result was execllent; also the lymphatic naevi of the conjunctiva, whether they were pedunculated or diffuse, dissappeared more or less completely after about six applications, with exposure averaging thirty seconds. In all cases the vascular elements of such growths quickly lessened and finally disappeared, and the subsequent fibrotic changes brought about a shrinkage of the whole growth, with strangling of all or most of the lymphatic element. One case of a whorl of vessels piercing the sclera about 8 mm. behind the limbus, was successfully treated through the conjunctiva with a pointed pencil; six applications, averaging twelve seconds were needed. It may be said that this was the only case where the snow was used in contact with the globe of the eye, and extreme caution was necessary at first, lest deep inflammation should be set up.

In spring catarrh an absolute cure was obtained in a long-standing case by three applications of fifteen seconds to the conjunctiva of each upper lid.

Rodent ulcers about the lids afford a striking example of the value of the remedy. Of the four cases treated, all recovered completely, with growth of apparently normal skin over the site of the long-standing chronic ulcers, and so far none have shown the least sign of recurrence. This skin seemed to have very little tendency to contract. In all these cases zinc ionization had been tried without making any impression whatsoever on the size or progress of the lesions. One case, shown at the Ophthalmological Society of the United Kingdom on May 4th, 1911, had a history of eight years steady growth, and the other cases were almost as long-standing as this one. The average exposure was 60 seconds, and the applications were made once a week, and each case was completely healed in under three months. In those cases of rodent ulcer at the root of the nose, or about the lid margins, one cannot give the longer exposures quoted in the treatment by this method of rodent ulcers in other parts of the body, for in the first class of cases the danger of setting up periostitis is to be reckoned with, owing to the lack of subcutaneous tissue; and in the second class of cases the nicest balance must be held between healing and remaining at a standstill, so that the formation of fibrous tissue may be at the minimum, else the results are complicated with ectropion and similar deformities.

With regard to the theory of the action of the reagent in the cases, it seems reasonable to suppose that the cells of the new growth are, for the most part, killed outright by the low temperature, and any remaining elements of new growth are easily overcome by the new healthy tissue formed as a consequence of the vascular reaction following the thawing of the part. If the temperature did not destroy the cells of the new growth, then ordinary congestive treatment should cure these cases; but, as a matter of experience it is known that congestion, whether active or passive, does not have as much effect as regards cure.

To sum up, solid carbon dioxide is to be welcomed as a means of inducing inflammatory reaction and consequent

repair, because of its portability, the simplicity ,of the apparatus required, the small cost (a 4½ lb. cylinder costing 1s. 6d to refill, and the gas contained therein sufficient for at least forty applications), and the minimum amount of experience required in the use of the reagent. The reaction can be watched, and the treatment can be slow at first and, as one gets more cases to operate upon, the exposure time in each case is readily judged. Thus it may be fairly said of this method of treatment that:

1. It apparently cures rodent ulcers when bone is not involved.

2. It relieves all cases of trachoma, and cures about 20 per cent.

3. It cures naevi of all types, and is therefore of considerable value in ophthalmic practice.

CYST OF THE IRIS.

Cyst of the iris is a lesion of the eye not met very often yet the practitioner should be prepared to make the diagnosis which is quite easy. Cysts of the iris are nearly always of traumatic origin. They are not malignant but are dangerous on account of the pressure they produce. This pressure may cause glancoma, sympathetic ophthalmia or irido-choroiditis. J. B. Martin recently reported an interesting case of cyst of the iris at a meeting of The Midland Medical Society of England. The Birmingham Medical Review publishes the report from which the following is abstracted:

H. F., a man aged 27, a butcher, was first seen on October 12th, 1911, complaining of a white mass which had been growing in the right eye for twelve months. This mass caused no pain, but prevented him from seeing with the eye, and was increasing in size. On further questioning the fact was elicited that the eye sometimes ached in the morning.

The history obtainable was very scanty. The patient absolutely denied trauma, and said that the cyst appeared as a small nodule about twelve months previously. There was no family history of ocular trouble, or of congenital or other tumours.

On examination a large cystic tumour was found occupying about one-third of the anterior chamber, extending from the root of the iris in the upper and inner quadrant to beyond the pupillary margin, concealing about two-thirds of the pupils. It was white and glistening in appearance, and contained a clear fluid. So far as could be seen, it was unilocular; a narrow band of pigmented iri s tissue passing in front of its broad base at the periphery demonstrated its origin from the iris itself.

R. V. = P. L. Tension = normal. L. V. = 6-6. The left eye was quite normal and healthy.

On November 7th. Blood count: Haemoglobin = 96 per cent. Red corpuscles = 5,900,000 per c.mm. White corpuscles, 9,365 per c.mm.

On November 11th a yellowish white deposit was observed forming in the dependent portion of the cyst. Under observation the cyst increased in size, and on November 15th the pupil had been markedly drawn in a nasal direction, with consequent distortion of the iris stroma. The deposit mentioned above was markedly increasing. No rise of tension had taken place.

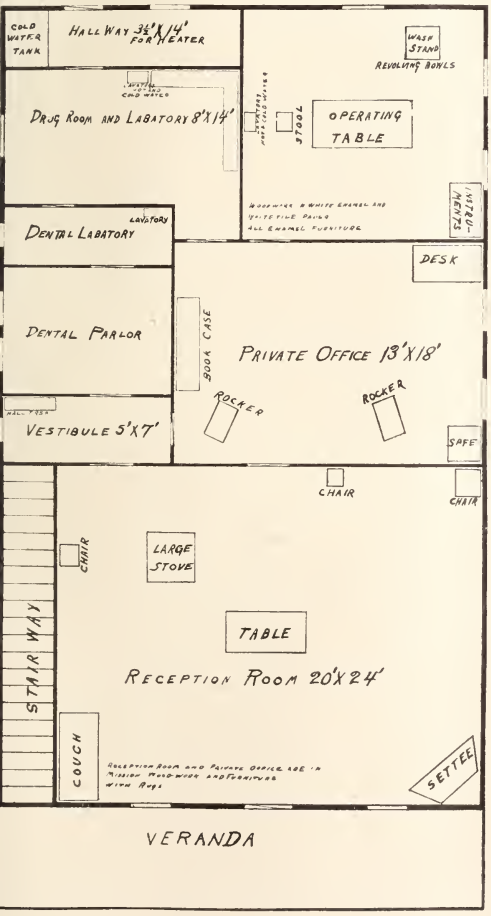
The chief interest of the case is in the absence of any history of trauma. This appears to exclude the possibility of its being an implantation cyst of any kind. The patient, who is an intelligent man, denies its presence previously to a year ago. If it were congenital in nature, it seems probable that it would have manifested itself earlier. Unfortunately it has been impossible to examine the fundus for any other congenital abnormality, but the patient declares that he could see well with this eye before the mass appeared.

The most probable diagnosis appears to be that of a retention cyst formed by the blocking of one of the crypts of the iris. The cause of this blocking can only be conjectured. Possibly a lymphatic obstruction such as is known to occur in other parts of the body.

The treatment proposed is paracentesis of the cyst, immediately followed by excision of the cyst with iridectomy of the whole of the affected portion of the iris.

COMPETITIVE PICTURES

The competitive picture of an office arrangement which will appeal to anyone as a very desirable and complete one, found on this page,



will have to remain unidentified for the present, as the letter which accompanied the original drawing, received some time ago, has been mislaid.

We ask the one who sent it to write to us at once, that we may give proper credit in our March number. The plans and furnishings, as described in the small type are certainly very complete and attractively and conveniently arranged. We are of the opinion that too little attention is given to this very important idea of providing for the comfort and convenience of both the doctor and patient. System wins here as well as elsewhere in enabling one to dispose of their work quickly and efficiently and first impressions are deciding factors in the success or failure of a doctor as of other people. Our advice is to have the very best equipped and furnished office that circumstances will permit. In many cases a combination of offices that permits an M. D. and a Dentist to use the same reception room is a very advantageous one in many respects, permitting either one to be out at times, with the other one to answer office calls and phone calls and to assist each other in their work occasionally when it is necessary.

♣ ♣ ♣

In seven of the eight cities of the United States, which have more than five hundred thousand population the death rate for 1911 is lower than it was in the previous year. Cleveland has the lowest, 13.5 per 1.00, Chicago next 14.3, Pittsburgh 14.7, St. Louis 15.5, New York 15.5, Philadelphia 16.3, Baltimore 18.4, Boston 18.5.

The Wisconsin
Medical Recorder

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ORIGINAL ARTICLES are solicited from our readers. We wish articles which are sent us to be contributed exclusively to this magazine. We will send the writer of any original article, if desired, twenty-five extra copies of the number containing the article. We are also willing to send copies to the professional friends of the author.

LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 FEBRUARY, 1912 No. 2

SOCIAL CENTERS.

Utilizing school houses as social centers is one of the greatest ideas of modern times. The literary exercises of the higher schools have helped to bring to those who have found it possible to attend them and enjoy such privileges, an ability to think clearly and to a logical conclusion; that those less privileged and more isolated and living in rural districts have had no opportunity to acquire.

This accomplishment is only possible to those who can have the keenness of their native wit enhanced and sharpened by the only effective process known, that of the friction of other minds, employed in considering the same or similar problems, which friction serves as in the case of the grindstone in mechanical pursuits, to remove the irregularities on the surface, and the useless and harmful projections of prejudice and careless and superficial processes of thought, tempering and preparing the mind to be a useful and reliable instrument of great value in assisting one to search out and understand the truth and to solve the many problems confronting us, making it serve us with precision and expeditiously too. None of the real problems of life are too trivial to deserve less than the very best mentality that we can bring to bear upon their consideration and their daily solution to the best possible advantage of all concerned. In coming to realize this we view our tasks in a new light and to enjoy performing them, rather than to dread them and pitying ourselves because our lot seems destined to be a busy one and perhaps is not one in which we are much in the limelight of public observation. To acquire the ability to express our thoughts and philosophical conclusions either orally or in writing is a valuable acquisition. To be able to put into language, the results of our quiet hours of thinking, is to add immensely to our power and the influence of our lives on the community in which we live. We hope that this important movement will spread rapidly and greatly prosper. Certainly the use of our school buildings both in the city and the country for the purposes of social center work is to be approved and urged upon the people. These buildings belong to them, and they should be used as convenient and suitable places for such gatherings as will further the plans that have been made and successfully used in many places. Chicago used ten of her buildings last year and will add thirteen more this year. Every community should use their school buildings in this way regularly, we think.

♠ ♠ ♠

Please report any instances of the use of public school buildings in which you are interested or with which you are acquainted. J. V. S.

Wisconsin Medical Recorder

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VOL. XV MARCH, 1912 NO. 3

IMMUNITY—ITS DIFFERENT PHASES

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

In view of the great advance which the study of antibodies has taken within the last few years, and the subsequent gain in methods of combating disease, we propose to take up in this article the subject of immunity. Before going on to its consideration, however, a brief historical sketch may not be amiss.

Perhaps the oldest records of inoculation practised for the purpose of acquiring immunity are those of China and other Oriental countries for the prevention of smallpox. The Chinese method was very crude and consisted of introducing crusts from actual cases of variola into the nose or tying them on the skin. The Turkish method was much neater. They made a scarification upon the skin and introduced into it a small quantity of the variolous pus. In 1718 this method was introduced into England by Lady Montague, wife of the British Ambassador to Turkey. By both of these methods the actual disease was produced, but in a mild form, with consequent immunity. A mild course was insured by selecting virus from a mild case, by performing the operation at a time when no epidemic existed, and doing it at a time when the individual was in good physical condition. Still, the danger of such an individual starting an epidemic was always present.

In 1791, Klett, a country schoolmaster of Starkendorf, Germany, made the first endeavor to utilize virus from cowpox for this purpose. He inoculated three children, all of whom escaped small-pox. Others had previously made the observation that persons who had acquired cowpox subsequently escaped small-pox, but Klett was the first to put the idea to practical use.

The father of vaccination, as practiced today, was of course Edward Jenner, who made his first experiment on May 14, 1796. He inoculated a lad with cow-pox from a milkmaid, and after his recovery, introduced small-pox into his arm, and found him fully immune to this disease. This led to many other experiments, all of which were recorded by Jenner, and attracted much attention. We all know the result. Most civilized countries now have compulsory vaccination, and small-pox, instead of the scourge it once was, is now comparatively rare and little feared.

The next step in artificial immunity was in 1881, when Pasteur succeeded in attenuating anthrax bacilli to such an extent that animals could be inoculated without producing the disease. He found that by gradually increasing the virulence of the bacteria, he could prepare a series of vaccines which conferred immunity to the animal into which they were injected.

In 1889 the same observer published his famous work upon rabies, in which he showed that the causative germ of this disease was contained in the central

nervous system of diseased animals, and that its virulence could be modified by drying. By drying the spinal cords of infected rabbits for different lengths of time, he prepared a graded series of vaccines, which caused the development of complete immunity in animals inoculated therewith. This formed the basis of the present very successful Pasteur treatment of rabies. Owing to the long incubation period of the disease, it is possible to produce active immunity even after infection.

This was followed by Haffkine's experiments with the introduction of killed cultures of cholera spirilla in 1891, and with bubonic plague (1895), both of which were attended by considerable success. Wright (1897) followed practically the same method for immunity against typhoid fever.

So far, all these discoveries concerned themselves with the introduction of the germs causing the disease, either dead or at least attenuated. Where the germs could not be isolated, as in variola and rabies, material known to contain them was used. But as early as 1888 Chauveau suspected that the active immunity conferred by bacteria was not due so much to themselves as to their products and a number of experiments made by many observers with the hog cholera bacillus, bacillus pyocyaneus, bacillus proteus and pneumococcus, showed that filtered cultures, from which the germs had been removed, had the same power of producing immunity as if the germs themselves were present.

This all proved that active immunity could be produced by dead or living micro-organisms, as well as by the products of dead or living organisms. Any of these increase the resisting power against a particular disease when properly introduced.

So much for the history of vaccine therapy. But more or less time was always required to produce active immunity by vaccination, and the suggestion made by Babes and Lepp, in 1889, that animals be immunized and their serum be used to confer immunity on others led to the present serum therapy, which differs from vaccine therapy in that we have immunity-conferring antibodies already made, and ready for use at any time. The fundamental principle, that an immunized animal generates antibodies in itself, which can be removed and their benefit transferred to another animal, has been well proven in some respects.

Behring and Kitasato in 1890 were the first to show that the blood serum of animals immunized against diphtheria and tetanus, when mixed with cultures of these bacilli, destroyed their disease producing power. They also showed that animals inoculated with a fatal dose of toxin could be saved by the injection of a suitable amount of the immune serum from another animal —the antitoxin. This discovery has proved of incalculable value in treating diphtheria—a disease whose rapid course made the production of active immunity almost impossible. The same is true to a lesser degree of tetanus.

Later, Ehrlich and others showed that passive immunity could be produced not only against the toxins of bacteria, but also against such vegetable toxins as abrin and ricin, and the venom of serpents. Other discoveries of great importance along the lines of immunity were those of Pfeiffer on agglutinins in 1896, forming the basis of the present Widal reaction, of precipitins by Wasserman and Schutze in 1900, of hemolysins by Ehrlich and Morgenroth in 1899, and the "side-chain" theory of Ehrlich, which has done more to explain the various phenomena of immunity than any other hypothesis yet formulated.

The experiment of Bordet, who found that the injection of blood corpuscles from any animal into another produced specific lysins for these corpuscles only, made it possible for Wasserman later to

devise his celebrated reaction for diagnosing syphilis.

A sad feature of the introduction of the new methods of vaccine and serum therapy was the first discovery of anaphylaxis, by the immediate death in 1896 of the healthy child of a noted German professor after a prophylactic injection of diphtheria antitoxin. Several deaths occured from this cause in the next few years. The investigation of the subject was taken up in 1905 by Rosenau and others, with the result that much information was gained on this point, which will be touched on later.

We will next take up the subject of immunity by vaccine and serum therapy in detail.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

DYSPHAGIA IN THE SICK INFANT.

By Henri Lesieur, M. D. Chicago, Ill.

Docteurs Perier and Gaujoux discuss this interesting point in the late number of Annales de medecine et chiurgie infantiles. That my American compatriots may know how the modern French doctor looks at such problems I take the liberty of presenting a free translation of their article. There are certain qualities characterizing my countrymen that I believe worthy of note here, their keen appreciation and essential practicality especially; and above all their personal interest in the patient as a human being and not merely a case.

When a mother consults the doctor because her child refuses to swallow its food, this does not mean that there is an obstacle to the passage of the alimentary bolus from mouth to stomach. Many times the child rejects the nourishment without even trying to swallow it, as one may see in some cases of aphthous stomatitis, where numerous ulcerations along the tongue and other parts of the buccal cavity render mastication so dolorous that the child refuses altogether solid foods or rejects them immediately after taking them into its mouth. I can not endure aliments hot, salty or sweet and drinks nothing but cold milk. This constitutes the particularity of this pseudodysphagia, whose real cause may be easily explained by examining the mouth.

In other cases deglutition is really impossible, whether by reason of an affection of the back of the mouth, or the pharynx, or an obstruction of the oesophagus.

True acute or subacute dysphagia. It is remarkable that catarrhal and follicular anginas of all kinds are scarcely ever accompanied in the infant with dysphagia, and in consequence often pass unperceived. Per contra dysphagia is very frequent in the phlegmons of the tonsils, ending in abscess; in retropharyngeal abscess, and in grave diphtheritic and scarlatinal anginas. The diagnosis in all these is easy, by the aid of simple inspection or palpation in case of abscess. Besides, the dysphagia is in certain cases accompanied by a symptom important and often putting one in the way of diagnosis, namely trismus.

Dysphagia accompanied by cough and suffocation, due to the entrance of food into the larynx and accompanied by escape of the liquids by the nose, is seen in paralysis of the veil of the palate, during convalescence from diphtheria. On inspecting the throat one finds the mucous membrane normal, but the uvula remains motionless during profound inspiration and during phonation. A concomitant sign aiding

diagnosis, is the absence of the nauseating reflex when the veil of the palate is tickled. This should always be tried.

Among the acute affections of the oesophagus that determine dysphagia we observe, especially with infants, corrosive oesophagitis, known by the anamnesis and the burns on the mouth and pharynx, oesophageal muguet, seen in children who during the first days or weeks of life have a neglected buccal muguet; finally, simple and neurosic spasm of the oesophagus, the latter as occurring in infants being disputed, but its existence established by the observations of Filatow in 1889.

Chronic dysphagia. The sole causes with infants are obstructions of the oesophagus. These generally result from the accidental taking of sulphuric acid or of caustic soda. In other cases the amanesis clearly reveals the cause of the obstruction, supervening in the majority of cases upon cicatrization of the muqueuse, which without treatment tends to increase progressively.

Besides this, oesophageal stenosis may be due to compression exercised by tumors of the anterior mediastinum, caseous glands, abscess, by congestion in tuberculosis of the vertebrae, etc., but these are rarely met.

Still more rarely do we see in infants cicatrices resulting from syphilitic ulcers, or from wounds inflicted by foreign bodies, or following various pustules.

Finally, when all these diagnostic features fail, the clinician facing oesophageal stenosis may conclude that the malady is congenital, due to the formation of diverticula, or to a limited narrowing of the tube. In diverticula the sound may at times pass freely into the stomach, at others be arrested in the cul-de-sac. Food lodging in the pouch may lie there a long time, and be ejected after putrefaction begins. In congenital stenosis the sound may not always locate the exact site of the narrowing, but the relatives find the infant suffocate when food is taken; he seems to swallow without masticating enough. But if the oesophagus is completely closed the newborn succumbs within four days, continually rejecting the milk, which he takes meanwhile with avidity.

After preparing this material I took a look at the various treatises on practice at my disposal to see how the writers treat the one affection of those mentioned that most interests the practioner, namely, thrush. It is curious to see how one after the other they repeat. Osler mentions soda sulphite, and Anders copies his exact words except making it read "hyposulphite." The only specific suggestion found is one from Baginsky, to employ resorcin solution for thrush affecting the oesophagus, dosing every hour. He also urges the local use of potassium permanganate for the mouth, in solution of one per cent. Tirard contributes a warning against the use of potassium chloride, in children too young to realize the necessity of not allowing it to be swallowed. The death of a colleague's only son, from suppression of urine following local applications of this agent in saturated solution, early impressed me with a sense of its dangerous character.

Escherich advises a boric acid sucking bag, to remove the deposit and prevent its recurrence without mechanical interference. A ball of sterilized cotton is covered with finely powdered boric acid, mixed with saccharin, wrapped in a piece of fine sterilized silk or gauze, and give to the child to chew or suck. The bag is changed every 24 hours. This removes the deposit and keeps the mouth disinfected continuously.

What is the object of treatment, and what are the obstacles to its success? Thrush is an indication of low vitality in the child, and lack of the cleanliness that should rule in the management of its mouth. The indications are to raise the vitality, and make and keep the

mouth and the rest of the alimentary tract clean.

Begin at the beginning and insure the child plenty of clean air, every moment of its 24 hours. Let it have a hot salty bath daily, following by rubbing from head to foot with hot cod liver oil. Clear out the bowels with alkaline rhubarb, or calomel followed by saline laxatives, and then disinfect them. The difficulty in disinfection is the lack of thoroughness and continuance in the work. Begin with the mouth, remove the growths and touch the surfaces with pure phenol, a point of lunar caustic, or a one per cent solution of sublimate. Follow with hydrogen dioxide solution full strength, applying it freely. Then disinfect the whole mouth as continuously as possible, to prevent reinfection of the open places. The sucking bag above mentioned is a good thing. For children old enough to use a lozenge, nothing gives as good results as the Abbott intestinal antiseptic tablet, held in the mouth until it disappears, and then another taken. While the taste is not pleasant, the relief from burning is so decided that the child will ask for the tablets. The more it is swallowed the better for the patient, for it keeps the oesophagus and stomach free from the infection. Sometimes the oesophagus fills up with the mycelial mass, so as to obstruct the passage of food, and the sound must be applied to open the way. This is the condition best met by resorcin, according to Baginsky, but the sulphocarbolates are as effective and safer. They control the accompanying diarrhoea and intertrigo as nothing else does. Absolutely inocuous, they have no perils of their own to be guarded against. There are no contraindications.

The mother's nipples must not be neglected, or we will see the malady renewed. Here also the sulphocarbolates offer a remedy so effective and safe that nothing else is requisite. The same rules apply as to continuous disinfection until the cure is complete.

If the child is too small to use a lozenge, the mouth should be washed out as often as possible, with a solution made by dissolving one of the tablets in an ounce of water. This with the sucking bag, will soon put an end to the malady, even in the worst forms, if the hygienic treatment is assiduously followed out. A treatment based on a correct conception of the conditions, well devised and carried out effectively, will soon put the case on the road to recovery. Neglected, the suffering is dreadful, and the case may soon become desperate.

THE THERAPEUTICAL INDICATIONS FOR THE USE OF PROTAN.

By C. W. Canan, B. S., M. D., Ph. D., Orkney Springs, Virginia.

In the clinical tests of the newer astringents, our attention was called to Protan by reading an article from the pen of an eminent German physician. We have treated 44 cases of acute and chronic diarrhoea with the drug; prescribing for them just as they come under our care, without classifying or selecting just special cases. Eleven cases were under two years old. Twelve ranged between two and fifteen years, and the remaining (twenty-three cases) were between fifteen and seventy-one years.

In the eleven cases of infants, all recovered except one, this little patient was moribund when the writer saw it, and it died eighteen hours afterward. The milder cases in this class began to improve after a few doses, the alvine evacuations becoming normal in two to four days.

The severer cases with twenty or more movements daily, the number began to be lessened after the second day and in five to seven days there was marked improvement. The cases fully recovering in two to three weeks if

there were no relapses from errors in diet.

In the second class, those of children, all recovered within ten days, except a four year old boy who had various relapses from errors in diet, and who did not fully recover until the heat of the summer was over.

In each of these relapses, some five or six in number, the remedy never failed to reduce the number of evacuations and in conjunction with digestive ferments would have produced a cure. The adult patients suffering from various forms of diarrhoea were all cured except three, two of these were advanced intestinal tuberculosis and the diarrhoea was controlled sufficient to make the patients comfortable.

The third case was an old lady 71 years old suffering from diarrhoea of old age. This patient was greatly benefitted and results would have still been better had she strictly followed her diet list. As soon as the bowel movements were controlled until she was comparatively comfortable, she would backslide from her diet list.

In all cases treated the constipating effect of the remedy was found to be wonderfully energetic and prompt in causing a rapid increase in the consistency of, and decrease in number of stools; at the same time reducing the quantity of blood and mucous present in the evacuations; besides these results, it certain acts as an antiseptic, rendering the stools less offensive. This was very noticeable in those cases that were dysenteric in character. Only in a few cases did the writer have to administer opium of some form to relieve pain and tenesmus. Even in cases where the diet was irrational, the remedy produced excellent results, soon restoring the normal function of mucous membrane. Its tastelesness especially recommends it in the treatment of infants and children. Being insoluble in the mouth and stomach, there is no risk to run of increasing any irritation that may already be present. Only once in the class of cases reported in this paper did we have it vomited by the patient. This was a bottle fed baby with a very irritable stomach. We had the nurse to lavage the stomach twice, three hours apart. After this, the vomiting ceased, and the remedy was retained. We believe it to be a remedy that is absolutely harmless, for in some obstinate cases, the writer gave a child two years old, sixty drains daily for several days until the actions which numbered 28 in twenty-four hours, were reduced to 6 per day; then the dose was reduced. If you do not secure results, do not be afraid to increase the dose, press it and results are sure to follow.

DEPT. OF SURGERY

By Louis Thexton, M. D.
Chicago, Ill.

I think it worth while to report these two gall-bladder cases because of the very different conditions existing, and the difficulty in making a diagnosis sufficiently accurate to advise operative procedure.

The first case was a woman sixty years old, well nourished, and apparently in good health. Saw me at private office about what she had been told "was due to heart and stomach trouble." History says she would become very short of breath upon walking, and that she would feel faint and had severe pain at times in epigastric region; no vomiting; pain not increased by eating, but always worse if she walked. She had noticed this for two years or more, and was relieved by reclining, but not entirely. She slept fairly well; attended to her household, but the distress occasioned by walking, was extreme.

Examination of chest showed slight mitral leak. Was advised to use cathartic to unload bowels, and report at hospital for complete examination. There were no other chest findings; abdomen quite large; outline of stomach normal; liver dulness normal; below the liver in region of gall-bladder, a hard swelling as large as a pear, slightly movable, not tender, but painful on motion; urine normal, blood count negative, pelvis free except small cervical polypus, which was removed. She then told me that the mass had been felt by another surgeon, and diagnosed cancer. Considering the general good condition and the history, I made diagnosis of impacted gallstones. Pain had been so great that she readily consented to operation. Incision made at border of right rectus, revealed mass covered with an adherent to omentum. This was separated from it, and the mass representing the gall-bladder, brought into view. At this point, it looked exceedingly like carcinoma, and I was tempted to give up further effort to remove it. The fact that there seemed to be no invasion of surrounding structures induced me to proceed. I dissected out the mass, tied off a small pedicle, ligated bleeding points, inserted gauze drain and closed abdomen. Examination of specimen showed it was gall-bladder, the walls about one-quarter to one-half an inch thick, and filled with a stone the size of a small pear, so completely, as to fill every part of its cavity. The bile had passed directly on into the intestine, and the gall-bladder as an organ, had been obliterated. Unfortunately, the second day pneumonia developed and the woman died, probably due to the ether anaesthesia. The case is interesting from the point that she had no gallstone colic at any time, no vomiting, no jaundice. I believe only one stone had formed, and that had continued to grow until it filled the whole cavity. I had just previous to this seen another case of the same kind, in which operation was refused because she had been told it was cancer.

The second case, a man 45 years old, had been sick a year; had lost forty pounds in flesh; was very sallow and had given up work. History began with severe attacks of pain in stomach, relieved by morphine, vomiting, and following the attack, jaundice.

Examination. Man much emaciated, skin yellow, tongue pale and coated, chest normal, abdomen retracted, stomach not distended, contents normal, liver outline normal, gall-bladder not palpable. Urine showed bile present. Diagnosis of cholelithiasis or cholecystitis was made.

Operation. Usual incision; gall-bladder not distended. Brought into wound and opened. Filled with muco-purulent biliary matter, no stones. Probe passed as far as possible, and could discover none. Gall-bladder drained and left open. For some time very little bile came out through opening, but later in quite large quantities. Gradually this closed. Man gained rapidly in weight, and seen six months later, had no recurrence, and regained full weight. In this case, I believe, his attacks were due to cholecystitis and obstruction of cystic duct by the thick secretion. Opening and packing finally obliterated gall-bladder entirely, and it is no more used for the storage of bile. The fact that we are not able absolutely, to satisfy ourselves of the presence of gallstones should not prevent operating in these cases. Infection of the gall-bladder is best relieved by drainage, and the relief is as great as in cases where stones have been found.

It is of great importance, that medical students should be carefully taught how to properly care for the patient after the performance of an operation and in accident cases. Internship in a hospital is the best place. The smaller hospitals in the larger and smaller cities afford these needed opportunities. This is more necessary since the days of practical training, by a preceptor are obsolete.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.
Chicago, Ill.

The welfare of the patient and the interests of the obstetrician are promoted by early consultation in cases of pregnancy. It is a good plan for the practitioner to encourage and educate his patrons as much as possible to call upon him or have him visit them as soon as they are strongly suspicious of the existence of pregnancy. It is well to make the fee for the obstetric case cover the ordinary oversight of the woman during her period of gestation, such as necessary office calls, telephone messages, examinations of urine and the like. If possible it is well to have a portion of the fee paid in advance. The woman should feel free to report to the doctor any unsual or unpleasant symptoms which may arise. Although most of her complaints will not require any treatment, he will do well to give an attentive ear to them, to pass them off with encouragement if they are inconsequential and to be alert to take suitable measures when some real pathological condition is revealed. The patient should be taught that her condition is a perfectly normal one, indeed that it represents the acme of health, but that certain unpleasant and uncomfortable symptoms may occur, some to be expected and others to be regarded as abnormal. It is a bad thing to relate an extended list of abnormal symptoms which may occur and for which the patient should be on the lookout. Beware of suggesting symptoms for any patient, especially to one in the highly exaggerated nervous state of pregnancy. The woman should be told to report at once to her obstetrician any bleeding or other unnatural discharge from the genitals, any rythmical pains of a severe character, severe headaches or epigastric pains, or a return of nausea and vomiting, during the later months.

Instruct the patient to bring or send a specimen of urine to your office once a month; the first day of each month is a date easiest remembered. It is better to have a twenty-four hours' specimen so that the absolute total amount of urea and other solids may be estimated. The specimen should be examined for specific gravity (thus estimating total solids), urea and albumen. If albumen is present the specimen should be examined microscopically for casts or other organized constituents. The urea is an excellent index of the amount of elimination of nitrogenous matters. If the total amount of urea in the twenty-four hours keeps low for several days it is pretty certain that the woman is retaining excretory products in her blood which tend to the production of toxemia. Mild diuretics and laxatives and an increase in the watery constituents of the diet should be prescribed to correct this condition. Albumen in small amount may be occasionally present in the urine of a pregnant woman without any dangerous indication, but, if it persists for days and especially if the amount keeps increasing, there is imperative indication for doing something. The presence of casts in the sediment and a diminuition in the total urea increases the indication. Milk diet for several days and a dimuition in the ingestion of sodium chloride will usually clear the matter up in a short time. If not the patient should be put to bed and treated in the manner proper for an acute nephritis. If the symptoms persist and become more severe in spite of proper treatment, the

question of interruption of the pregnancy may come up, to be decided only after consultation with other reputable practitioners.

The increased metabolism of the mother and of her growing child causes an increased production of carbon dioxide and therefore an increased need of oxygen. The pregnant woman needs plenty of fresh air. It may seem that any woman living in the country has that. Practically however many farmers' wives, especially in the winter, close their houses so tight and are so afraid of "catching cold" that they get less fresh air than do women living in the slums of cities. Teach the woman to leave her bedroom window open at least a little all night. If she is cold let her put on more clothing or take a hot water bottle or warm bricks into the bed with her. If you can induce her to sleep in fresh air for a few nights the better feeling which she will experience on waking will win the battle for you.

Most women are obliged to exercise during pregancy as well as at other times. The world's work must be done and women have to do more than their share of it. During pregnancy she needs exercise but she should be protected from the hardest kinds of work. She should always exercise below the point of fatigue, should do no heavy lifting. Scrubbing is far better than the washtub or wielding the broom. The kneechest posture assumed is beneficial in relieving the pressure on the pelvic viscera and in aiding the circulation of the pelvis. A woman with good muscular development will have an advantage from the better action of her abdominal muscles during the expulsive stage of labor but it is rather late to try to make an athlete out of her after the pregnancy has begun. The shock of the bumps on the average road is dangerous in the latter months of pregnancy and at the same time when the menstrual epochs would normally be due. Also railroad travel should be discouraged at such times.

Rest is absolutely essential during pregnancy. The heart is doing more than its normal share of work and the body muscles are doing more in carrying about her enlarged body. The abdominal pressure is increased by the increasing contents of the abdomen and the pressure upon the pelvic contents and the pelvic floor is much increased, especially towards the end. The pregnant woman should often lie down for short intervals during the day; she should take the knee-chest posture frequently; above all she should have uninterrupted sleep at night. If she is much troubled with insomnia, as sometimes happens, the cause should be found if possible. It may be that her evening meal distresses her; if so, it should be modified in quality or quantity. It may be that she is hungry at bedtime; if so, a little hot milk, hot malted milk or a biscuit may suffice. Often overloaded bowels are the cause. If she is frequently up at night on calls from the bladder, she should be instructed to do most of her drinking during the early portion of the day. It may even be necessary to give a hypnotic to start the woman in habits of sleeping. If so, about as good and harmless a drug as any is veronal, taken in a dose of five or ten grains at bedtime. Coitus should be limited. If it were not for social conditions and the happiness of the household, it would be better if it was entirely omitted during pregnancy. It should never be indulged in to excess and never at all when it causes distress or any marked symptoms. It should surely be omitted during the menstrual periods and during the last two or three months.

Since elimination should be favored as much as possible, it is wise to think that the skin should be kept in good condition by sufficient bathing. Neither the hot bath nor the very cold bath

should be recommended, but a happy medium.

Unless there is a pathological discharge or the normal discharges from the vagina of the pregnant woman are troublesome to her, douches will be unnecessary. Indeed, the vagina is antiseptic through the growth of certain benign microbes within it. If these are removed by means of douches we lose a valuable aid in our warfare against infection with pathogenic microbes when we come to the time of labor or should a premature emptying of the uterus occur. If douches are used at all the water should not be too hot or too cold, should not contain any irritating substances in solution and should not flow with much force into the vagina for fear of exciting contractions.

The dress of the pregnant woman should be loose and easy and should be adapted to the weather. Since it is usually impossible to get a woman to give up her corset until the last possible moment, we must usually be content to advise her to wear it very loosely. The long corset which is not especially tight at the waist line is the only kind which should be permitted. In some multiparae with overhanging bellies a snug and well fitted abdominal bandage will give great relief from the bearing down feeling which is often present. The size of the enlarged abdomen in the later months often holds the petticoats so far out that the legs and belly may become cold in winter. It is wise for the woman to wear woolen tights or close fitting drawers to prevent this. The weight of the clothing should hang as much as possible from the shoulders rather than from the waist to prevent pressure on the fundus of the uterus.

The diet in pregnancy should be just what any normal sensible person ought to follow at all times. However, few of us are sensible enough at all times to follow a proper diet. The pregnant woman should avoid highly seasoned foods, alcohol, an excesive amount of sweets, greasy foods, fried foods, rich pastry or rich cakes, in short, the things which none of us would advise anyone else to eat at any time but which we may often indulge in ourselves, although realizing their harmfulness. The digestion at this time is easily disturbed and the flatulence often consequent upon such disturbance is a cause of much distress. The woman would rather eat four or five small meals a day than three heavy meals. There should be plenty of fruit, plenty of water in various forms, coarse grained foods and a minimum of red meats. Tea and coffee may be continued in moderation if the patient is addicted to them. If accustomed to alcoholics she may be allowed a very limited indulgence in them during pregnancy.

The constipation which is so often present needs to be treated. The diet prescribed already tends to prevent constipation but often will not be sufficient. In some instances we must give laxatives, the best of which is cascara in small doses three times a day. Occasionally Glauber's salts may be needed to empty the bowels. Plenolphthalein is a good occasional cathartic. Colonic flushings, especially in the later weeks, when the lower bowel is mechanically obstructed by the enlarged uterus, are to be recommended.

The nausea and vomiting which usually occur during the first ten weeks of pregnancy usually require little or no treatemnt and must be looked upon as almost physiological. Sometimes, however, they become so marked as to be annoying or even so severe as to be dangerous. Drug after drug has been recommended for this condition. As usual when so many drugs are recommended for a condition, none of them are reliable. The nausea and vomiting usually cease abruptly some time before the third month and the last remedy which was given gets the credit for the cure in that individual case. It is employed the first in the next case and

usually fails. The nausea and vomiting of pregnancy are reflex, neurotic or toxic. The reflex form may be relieved by correcting, by a suitable pessary, the malposition of the uterus or by removing any other possible reflex cause. The neurotic form must be treated along neurological lines by suggestion, by making strong mental impressions upon the patient, by nerve sedatives or even by sanitarium treatment. The toxic form must be treated by eliminative methods. These have been mentioned in connection with the consideration of the urinary secretion. In really serious cases of nausea and vomiting of pregnancy one should attack the case in a systematic manner. He should put the patient to bed under the care of a competent nurse when he cannot get her into a good hospital. She should lie absolutely flat and not rise for any purpose. She should be fed at regular and frequent intervals, at first with broths, liquid foods, milk or whey, and later with more nourishing foods in small quantities. The food should be brought to her without ostentation by the nurse, but the bringing of it and the taking of it should be made as much a matter of course as the rising and setting of the sun. The woman should never be asked what she would like or even if she would like anything at all. The discipline of having the food brought regularly and inexorably in small amounts but at frequent intervals is good treatment for the neurotic element which is present in some measure in almost all of these cases. In some cases it will be necessary to feed with peptonized milk or other predigested food by the rectum for several days, giving the stomach absolute rest. It is rare that more than four or five ounces of peptonized milk can be tolerated oftener than every four to six hours by the rectum. In the toxic cases a most excellent treatment is the ingestion of large quantities of the normal salt solution. The saline solution is composed of 6% of sodium chloride in sterile water. Roughly it may be improvised by taking three-fourths of a dram of salt to a pint of water and boiling for ten to twenty minutes, then cooling. It may be administered by hypodermoclysis, which consists in letting the solution into the areolar spaces under the breasts, under the skin of the abdomen or under the scapulae by means of two large hollow needles attached by a Y junction to the tube of a fountain syringe held two or three feet above the level of the patient. All the apparatus must be sterilized. Another method just as efficacious is the continuous enema. In this method a rectal tube is connected by a rubber tube with a short glass tube having both ends contracted. Through the upper end of the glass tube is fitted a smaller glass tube with a small point inside the larger glass tube. The junction may be made by means of rubber tubing. The blunt end of the smaller glass tube is connected by another rubber tube with the vessel containing the saline solution. The tube is so constricted that the fluid drops from the smaller glass tube. This solution is kept warm by frequent replenishing with warm solution or by means of some warming apparatus. A constant drop-by-drop enema is thus carried into the rectum and is absorbed almost as fast as it enters. This continuous enema may be discontinued occasionally on account of irritation of the rectum. Nothing causes elimination of toxins quicker or better than does this washing out of the blood by the saline solution.

The dietary recommended by Prochownik and others which is designed to diminish the size of the child and render its bones softer and therefore more easily molded during labor has not met with much of a following in the profession. It is difficult to maintain, is not very certain in its effects, and it involves too much chance of harm to mother and child. It is reasonable to

conclude that such a diminution in the diet as would cause the child's body to be smaller or softer would be detrimental to the mother and child in other respects.

The breasts should receive the attention of the obstetrician during the later months of the pregnancy. The use of strong astringents with the object of hardening the nipples is to be deprecated. Such tanning renders the delicate skin of the nipple and areolar inelastic and much more liable to crack. The cracking of nipples by suction is the main cause of infection of the breasts during the puerperium. If the nipples are retracted, as they often are from presure of tight clothing, they should be pulled out frequently by the clean fingers of the woman so that they will become trained to stand out far enough for the child's mouth to grasp them. Otherwise, except for cleanliness and prevention of irritation of clothing, the breasts seldom require any treatment.

Gentle daily massage of the skin of the abdomen and breasts with some bland emollient is useful to diminish the tendency to the formation of those lines which are due to the excessive stretching of the deeper layers of the skin.

Decayed teeth seem to become worse more rapidly during pregnancy. Therefore the woman should have such teeth attended to by the dentist even while she is pregnant. Temporary repairs are the most which should be undertaken at such times because of the irritating effect upon the mental and nervous systems of extensive odontological operations.

Some increased discharge from the vulva is to be expected during pregnancy because of the heightened activity of the mucous glands of the genitals on account of the hyperemia due to the gestation. If the discharge is excessive or evidently purulent smears should be taken and examined for microbes. If the gonococcus is identified appropriate measures should be undertaken and the danger to the eyes of the new born should be kept in mind. In some cases frequent application of a ten per cent solution of argyrol to the vulva, vagina, urethral orifice and even the cervical canal will be necessary.

The examination which the obstetrician should make of his prospective patient should be thorough. Otherwise he cannot perform his full duty to her and to the child. The trained obstetrician differs from the incompetent and the midwife only as he understands how to diagnosticate threatening conditions and to prognosticate from his careful examinations. A full history should be taken of every patient. Her former history may give information as to previous diseases or deformities, her marital history may throw light upon chances of infection from a husband, the history of her menstrual life is important, and immense benefit may be obtained from a carefully taken history of her former pregnancies and labors.

The physical examination should begin with a record of her weight, height, nutrition, color and general appearance. The pelvis should be measured in all cases if one wishes to be able to know things beforehand and to take precautions. To the obstetrician the pelvimeter is an instrument as essential as the stethoscope to the general practitioner. No one can call himself a trained obstetrician unless he knows how to use and interpret the pelvimeter. Skillful obstetrics consists not alone in being able to perform version, forceps operation or cesarean section, but in knowing beforehand whether such operations will probably be necessary and, in many instances, knowing what measures to institute to avoid major obstetrical operations. It is a poor distinction for some strong-armed doctor to extract a dead or moribund child through the lacerated passages of a woman by main strength and awkward-

ness, when careful and intelligent examination and measurement before labor might have enabled him to perform premature labor at the eighth month, to have recognized an abnormal presentation in time to have corrected it, to have taken measures for an elective cesarean section under proper auspices or in other ways to have saved the woman from the brutality of such a forceps delivery. If you call counsel to help you to deliver after a prolonged labor and the consultant asks you what the pelvic measurements are, you will feel some chagrin if you are obliged to tell him that you did not take any measurements. Then, if he measures and finds a contracted pelvis of sufficient degree to have called for a cesarean section which is now impossible or dangerous because of the prolongation of the labor and consequent danger of sepsis and is obliged to perform craniotomy upon the living child, who will be morally responsible for the death of that child?

External palpation of the uterine tumor before labor commences will often reveal the presentation and position of the fetus, thus supplying the attendant with advance information which may be of great value to him at the labor. Every practitioner who does obstetrics (and that means nearly every practitioner) has the opportunity of perfecting himself in the methods of external palpation and has nobody but himself to blame if he is not an expert. The best obstetricians conduct the majority of their normal labors under the guidance of external palpation and auscultation alone without making any vaginal examinaion during labor. If one has not put his finger into the vulvar orifice during labor he can absolve himself of any charge of infecting the woman. Also he will have far less cases of infection of any degree if he follows this practice.

It goes without saying that the examination of the patient should include as far as possible all the organs and systems of the body, because disease anywhere influences pregnancy and parturition mightily. Especially should the condition of the heart, lungs, liver and kidneys be known.

The care of a woman during her pregnancy is almost if not quite as important as attendance during her labor. Of course many women only call the doctor when the labor has begun, often not until it is almost ended. They seem to have an idea that the doctor is necessary in order that the child shall be born. They assume to know enough themselves, with the help of the advice of all the old women of their acquaintance, to take care of themselves up to the actual time of delivery. We should try to educate them to regard the doctor as a pilot who knows the shoals and rocks of the harbor and who should be taken on board at a considerable distance from land so that he may avoid these dangers, and not to wait to summon him until the ship is actually going over the bar.

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Our state Hygienic Laboratory gave a "negative" report on three different "smears" sent to them in a case of Diphtheria and we called the health officer in consultation to satisfy the family that they ought to be quarantined. He agreed with the diagnosis, from the symptoms and conditions present, in spite of the "negative" reports. Every exposed member of the family, two other children and three adults, except one of the adults, had diphtheria, though in all the other cases the course of the disease was somewhat modified by immunizing doses of Antitoxin. In justice to the Laboratory it should be said that this is the first error that we have known to be made and that there is always a possibility of imperfectly obtaining and packing and shipping the specimen. Symptoms must still be reckoned with in diagnosis without a doubt.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D., M. E., Lima, Ohio

HOW ELECTROCUTION FEELS.

To be shocked apparently to death by electrification, and then to recover and describe one's sensations with scientific accuracy—such is the incredible experience of a professor in the Paris school of medicine. On the day of the accident various trials were being made with currents of very high frequency. Becoming absorbed in his work the professor inadvertently seized two electrodes in his hands. The terrible current threw him down with great violence, and caused a general muscular tetanus, including such a stiff lock-jaw that the effects were of some day's duration.

A great effort was made by the victim to let go of the electrodes, but he found it impossible. He was conscious of great physical and mental agony, and tried to cry out for his assistant to cut the circuit. Immediately thereafter sensation in his hands and feet was lost, and the awful experience followed of being in the grasp of death, inexorable and swift approaching. There came next into the mind a perturbation of the notion of verticle lines and of the notions of color. The wall of the room seemed to incline solidarily and slowly to 45 degrees to the right when they stopped. At the same time they turned to a vivid green. Then consciousness left him, but almost immediately the circuit had been cut and under restoratives his senses returned. He says, in describing his sensations after recovery:

"I have no remembrance of excruciating physical pain, but a still harrowing recollection of the phenomena which occurred.

"Once upon my feet I was able to walk, but with uncertain gait. I had the curious feeling of a man whose head and legs alone were alive. It was as if my arms and trunk were suddenly nonexistent; as a matter of fact they were completely paralyzed.

"At my request one of the men touched my hand and the contact seemed intensely cold.

"In four or five minutes it became possible for me to bend my arms. About a quarter of an hour later the contracted muscles of the fingers became more supple and I was able to move them.

"I sat down and wrote a few words with great difficulty. In a few hours the fingers were in normal condition again.

"Sensitiveness and the muscular sense returned at the same time with mobility.

"One and one-half hours later I was seized with a violent anguish of the heart. My pulse began to beat in a disorderly way, fast and hard; then for two seconds it would stop, then there was a series of rapid, feeble beats, another long stop, after which the phenomena would be repeated. This lack of system in the heart action persisted until the next morning."

In explaining the physical effects, the paralysis was undoubtedly due to the action of the current on the nerve centers, or possibly due to the fatigue following tetanus.

As for the heart trouble observed one hour after the shock, we may suppose it was due to the presence in the blood of toxic substances produced by such a violent muscular irritation as was determined during the passage of the current.

"The current was the secondary of a Ruhmkorff apparatus, excited by the alternated current of the city of Paris, which is 42 periods by seconds and 110 volts. At the time of the accident the primary was given 50 amperes. The potential difference, therefore, was about 50,000 volts for the open circuit. If the circuit had been completely closed, its

total resistance being about 70,000, and admitting the co-efficient of product to be 75 per cent, we would have an intensity of about 300 milliamperes.''

Altogether the experience was so remarkable and interesting that the accident must certainly attract great attention and create discussion.

MISCELLANEOUS

LOBAR PNEUMONIA AND ITS TREATMENT.

By J. P. Brandon, M. D., Essex, Mo.

Pneumonia is simply an acute, infectious, croupous inflammation of the vesicular structure of the lung tissue, rendering the alveoli impervious to air.

It is characterized by a severe or slight chill which usually occurs during the night. This chill is generally followed by a rapid rise of temperature from 103° to 106° F.; sometimes higher; complaint of some headache, thoracic pain, dyspnea, cough, also rusty colored sputum with great prostration occurs.

All ages are liable—the rich as well as the poor. However, males more frequently than females, and one attack predisposes to another.

You will notice the full but rapid pulse, soon showing evidence of embarrassed cardiac action from the obstructed pulmonary circulation.

There are sharp, lancinating pains near the nipple.

The pain is very much increased by pressure, breathing or coughing.

Rapid respiration, inspiration, short and superficial expiration, accompanied by a moan or grunt.

Respiration increases to 40, 50 and in severe cases I have even seen respiration as high as 60 or more per minute.

There is a sleepless and very restless condition, rarely delirium (early delirium is a grave sign).

So far as mentioning further symptoms of this disease, it is useless, for I am sure there are not many of the Recorder's readers but could make a correct diagnosis of pneumonia by inspection alone.

TREATMENT.

I will give my line of treatment very briefly. Some say venesection; some say it is contra indicated in all conditions, but I believe if we would use venesection in the majority of cases we would get better results.

However, I never used venesection but once in my life and that was for uraemic convulsions. The patient died within about two hours, nevertheless; I, of course, did not consider that ''bleeding'' hurried her off. Yet I do believe I might have saved her life had venesection been used 24 to 36 hours earlier.

My line of treatment for pneumonia is very short. That sharp pain in the side I usually control with the cotton jacket, using plenty of goose grease or lard. Add equal quantity of turpentine with it and apply to the chest freely every 3 or 4 hours. You may use a sack of hot salt or a hot water bottle, which usually relieves the pain.

Ordinary adhesive plaster placed securely over the seat of pain will often subdue the agonizing pain. Very often I find it necessary to use an opiate—of these I use very little, generally giving codein sulphate, ¼ grain, as indicated,

or 2½ to 5 grains of camphorated Dover powder.

In the majority of cases I prescribe the following cathartics:

℞

Hydrargyri chloridi miti. gr. x
Powdered ipecac .....gr. i
Podophyllin .....gr. i
Sodi bicarb. .....gr. x

M. et. ft. powder No. x.

Sig. One powder every hour till bowels move freely, or give them all, then follow with saline.

I prefer Abbott's saline laxative as it makes a nice drink and very effective.

The cathartic is then followed with a good intestinal antiseptic; sometimes 3 to 5 grains of salol every 3 hours, or carbonate of guiacol in 5 grain capsules every 3 or 4 hours. In certain conditions I use Abbott's sulpho carbolates. Where the stomach will tolerate the drug, I like the creosote carbonate (von Heyden) in 15 to 20 drop doses every 3 hours in sweet milk—or I often prescribe a preparation put up by the Maltbie Chemical Co. of Newark, N. J.; namely, calcium creosote. Of this preparation I commence with teaspoonful doses and increase to 2 teaspoonfuls in plenty of water every 3 hours. This stimulates the lung tissue, relieves the cough, helps control temperature and acts well in many ways, is an excellent intestinal antiseptic and a splendid expectorant.

Besides I believe these creosote preparations have a specific action on the pneumococcus—that they render them inert, or helpless so to speak, and prevent them from further action. I do not believe there is any one drug so much indicated in pneumonia as creosote in some form.

I usually give 3 to 5 grains of quinine sulphate every 3 or 4 hours for at least 24 to 48 hours, of which I get the stimulating effect as well as the antimalarial effect, and, in fact, I am inclined to believe the quinine has a slight specific action on the pneumococcus.

Always flush the kidneys with some good diuretic. The following prescription has proved satisfactory in my hands:

℞

Potassii acetatis .....ʒi
Spts. Aetheris nitrosi.....ʒii
Elix. buchu juniper et pot. acet .....q. s. f. ℥iv

M. Sig. Teaspoonful every 2 or 3 hours till kidneys act freely. Dilute with water.

For the rapid respiration give a respiratory stimulant, some of the ammonias. I prefer the aromatic spirit, while some use the carbonate of ammonia. I use the aromatic spirit in ½ to 1 dram doses in a little water every half to 3 hours p. r. n. Now, as to the cough syrups and mixtures I will say that if you use the creosote, and especially the calcium creosote preparations you will not have much use for any other cough mixture. However, I usually use some of the white pine compounds. One cheap but good one, which has given me universal satisfaction, is anodyne cherry expectorant, giving 1 teaspoonful every hour or two as needed to relieve the distressing cough.

SUSTAIN HEART ACTION.

Two prominent indications for treatment arise, namely, heart insufficiency and high temperature.

To sustain heart action is one of the most important indications, for experience shows that cardiac failure is responsible for the larger number of deaths from this affection.

Strychnin sulphate is the sheet anchor, 1-60 to 1-30 grain every 3 or 4 hours, or tincture of digitalis. Also the aromatic spirit of ammonia is a very good addition.

Be sure and keep heart action stimulated and depend largely on strychnin and digitalis.

The reduction of high temperature at this time is very important. Cool sponging with alcohol and water will control this. However, it is to be remembered that temperature under 104° is as normal to pneumonia as the dyspnea or the rusty sputum. I often use aconite and Tr. Veratrum if temperature runs high. In this I let the pulse be my guide. If a quick, thready pulse I give the aconite and if a full, rebounding pulse I give the veratrum. Use antipyretic drugs with great caution. (Just a word regarding heart stimulant. It is by some thought to be advisable to give strychnin until the heart needs stimulating, more or less late in the disease, arterial sedatives being used instead to relieve the heart of its load, as found in the arterial tension. I vary some from this rule. If there is anything in prophylaxsis, why not begin early.)

KEEP BOWELS LOOSE.

If the bowels become disturbed and show any tympanitic condition, it increases the heart action and causes rapid respiration; for which I advise the use of hot turpentine fomentations, also turpentine egg emulsion so as to get about 5 drops of turpentine every 3 or 4 hours until the tongue is moist or the secretions are aroused.

This is one of the best intestinal antiseptics. Give a dose of oil and turpentine; also use a high enema. Remove the gas from the bowels at once.

I am going to give a brief diet for this patient. Urge your patient to take plenty rich, nutritious diet, such as beef juice, poached egg, soft boiled egg, egg punch, eggnogg, chicken soup or broth, in fact, any liquid diet. Above all things keep the sick room well ventilated, plenty of fresh air and at no time allow over 3 or 4 persons in the sickroom at one time.

The Recorder is as welcome in my office as a cool breeze on a hot, summer day. Best wishes to the editor and the Recorder's readers.

ABORTION OF PNEUMONIA.

By George L. Servoss, M. D., Gardnerville, Nevada.

In the "Queries" column of the January issue of the Recorder the Editor asks, "What can be done, if anything, to abort an attack of pneumonia?" Unless the case is seen early, it is very probable that but little can be done to abort, but the condition may be held in abeyance, even when encountered in other than the first stages.

If seen early, say within the first few hours after the appearance of the primary symptoms, the prompt application of indicated remedies will not infrequently bring about a prompt correction, with a return to the normal. It is not necessary, at this time, to go into details regarding the symptoms. It is well known, by all of us, that we primarily have a considerable temperature, with high pulse. Such symptoms may or may not, be attended with pain of pleuritic origin.

With high temperature and accelerated pulse the first thing entering our mind is to bring about a correction and the sooner we do this the greater chance we have of aborting the fury of the disease. Whether or not we encounter obstipation, it is good routine to thoroughly clear the bowel, through the use of calomel and podophyllin, followed by a saline to effect. To govern the pulse and temperature we have no better agent than aconitine in the earlier stages of the disease and this agent should be pushed to full effect and without fear of untoward results. Given a pulse of from 110 to 120 per minute and attending temperature, ranging about 103° to 104° F., amorphous aconitine in dosage of 1-134 grain, or crystal aconitine 1-800 grain should be given at intervals of from fifteen to thirty minutes until the pulse rate is brought down to the neighborhood of 80 per minute, after which the interval of dosage is lengthened to such time as will maintain such pulse

rate. If the pulse is lowered to this point and held there, it will be found that the continuation of the disease will be interfered with in a marked manner, in fact, that all the symptoms will disappear within a comparatively few hours after the institution of treatment.

Some writers maintain that such dosage is dangerous, not having seen the good results obtained therefrom, I cannot agree with them. There is no more danger to be feared from bringing the pulse and temperature down to the neighborhood of normal and holding them at such point than there is in allowing them to remain at the higher point. In fact, even though the results are brought about through the use of such a potent agent, there is but little real danger to be feared, if the doctor understands thoroughly the action of the agents employed, and if he employs them rationally and with the idea of correcting the abnormal conditions, and those only. In order that there may be no possible chance of heart failure, due to the aconitine effect, it is well, in many cases to combine strychnine and either digitalin or digipoten with the aconitine. The dosage of strychnine to be 1-134 grain and of digitalin 1-67 grain. The dosage of digipoten ranges from 1-6 to ½ grain, which is relatively 1-67 to 1-10 grain of digitalin. Digipoten is a digitalis product which carries all the therapeutic glucosides of the drugs and is standardized according to the one hour frog method. This digitalis product is water soluble and also soluble in a 25 per cent dilution of alcohol. Care should be taken, when employing digipoten, not to combine it with either iron salts or tannin, as they act as precipitants and render the drug inert of action. This should be borne in mind, in that these incompatible agents are likewise antidotes in over dosage of digipoten.

Not only should the bowels be thoroughly cleared of their contents, but in addition, they should be kept clean subsequently and of the many agents employed as intestinal antiseptics, it is very probable that the sulphocarbolates are the best offered. They should be employed in such dosage as will render the discharges of normal consistency and color and without odor. In fact, in all acute, infectious diseases much is accomplished, in the way of abortion of the condition through the clearing out of the bowels and keeping them subsequently clean. This overcomes any tendency to absorption of toxins from the intestinal tract, such toxins adding to the fury of the specific infective agent.

It has been my experience that, in all cases where I have been able to institute the above outlined treatment early, the marked symptoms have been rapidly overcome and that termination by lysis, and within a comparatively short time, has been the result. In fact, within the past four or five years, I have only seen one or two terminations by crisis, and these were in patients who were seen late. By pushing the aconitine to full effect, or until the pulse rate is at 80 or thereabouts, and held at that point, the temperature does not reach a subsequently high point and gradually sinks to normal. Not only is the fury of the disease abated, but in addition the period of convalescence is shortened, as the holding of the temperature at as nearly normal as possible saves much tissue waste and the patient recovers without great loss of vitality.

TO ABORT PNEUMONIA.

By J. A. Burnett, M. D., Marble City, Okla.

In answer to Querry No. 2, page 21, Jan. Recorder, I will say that I believe that some cases of pneumonia can be aborted. Use the 500 c. p. Leucodescent or the Victor arc therapeutic lamp or some other reliable make of therapeutic lamps. Give vertebral percussion with an instrument made for this purpose to

be run with the current from an electric light plant. The indicated drug should be given internally or hypodermically. I think the hypodermic route will prove more positive in action than any other mode of application. There are many other things that can be done or may be needed.

SEXUAL CONSERVATION.

By W. Sturat Leech, M. D., Roseau, Minn.

"Think thou not that he had hands of marvelous skill whoever first painted love as a boy? He first saw that lovers live careless of everything, and that blessings are lost with indifference."

Uncontrolled passion is lust, lust produces insult to the flesh or disease, disease ends in death. The daily press teems with literature concerning the white slave traffic and the conservation of the sexes. Many good writers are proposing many good and many ill remedies. In our reverie we will consider sexual passion rather than true love, the latter is all conquering and never produces ill. The sexual passion is a form of force in action, it is a fire and we know fire is a transition or a change of existence. Both are great and grand things but possessing bad masters. The more knowledge we possess the more the world expects of us—the greater the possession the greater the responsibilities. Immortality is one of the highest longings of the thinking soul, and this longing for immortality is sacred and walks hand and hand with the sexual passion.

With our present light there is no other means under heaven by which we may perpetuate our earthly existence other than via sexualis. We reverence our faith and hold sacred and holy the other man's particular religion which he deems his only road to perpetual existence after the soul's transition; but for his earthly perpetuity or the continuation of the species on this mundane sphere little if any respect is shown. Right and left man violates his mother's sex and the daughter disgraces the fathers honor. Man is prone to forget that she is his own sister, if not his sister she is some other man's sister. We are given minds and no one doubts but that mind is stronger than matter when trained for defense. But the most of us permit a little irritation in the region of the seminal vessicles or peristaltic waves of the fallopian tubes to cause us to insult our present existence and forfeit our hope in the futurity of the race. In other words we curse ourselves.

The shepherd uses his crook to draw the wayfaring sheep from the hillside to the straight path, the cattleman lashes the steer back into line, so the germs of syphilis, gonorhhoea, and other venereal diseases, terrible in their severity, are the whips to lash us back into line but like dumb beaten cattle we fail to take cognizance. This is still more to be wondered at when we pause and consider the psychological suffering of the affinity (adultery) class. Morality is for the preservation of the flesh.

The Greeks erected temples to Baal (priapus) and worshiped the idol with disgusting sensual rites. The idol's fair princesses sang their voluptuous songs and bid the gallants come and sow their wild oats in their youthful days. The wild oats (a cursed sanitary heresy) have been and are being sown in the soil of their mother's likeness. A harvest of hospitals and death, crime and poverty is now going on. Jezebel was the Astarte, the female earthly part and representative of the God Baal as recorded by the Greek historians. Is it any wonder the faithful dogs of the street were insulted at the palms of her hands and the soles of her feet? Astarte's present day disciples are bidding young men worship the goddess with the heresy of "Sow the wild oats." We fail to profit by four thousand years of

sad experience. From the Wasserman tests we are faced with the astonishing fact that eighty-five per cent of all prostitutes are infected with syphilis in less than two years after entering their nefarious traffic. We know that one-third of all abortions are produced by this one disease, and space forbids us to mention the innumerable ways it has in dwarfing, shortening, and paining the human family. Sufficient is it to say that one-third of the race has traces of it in their system.

Of the three great destroyers of human flesh alcohol, syphilis and gonorrhoea, the last prefers to kill off the women. The gynecological surgeon rightly informs us that eighty per cent of all abdominal and pelvic operations are made necessary by this one disease. What a travesty on our boasted modernism? We know that most of these women contract, suffer, go under the knife, and then live or die without our informing them of the Neisser elements which they have been acting as feast for. To her it may have been a free gift at the periodical dance, likely as not it was obtained innocently and generally at hymen's sacred altar. The Adonis comes in for his share of the proceeds, perhaps, in the shape of a rheumatic heart, vesiculitis but generally an enlarged prostate or a urethral stricture developing five, ten, or fifteen years afterwards.

Many things we know but heed not. We know that gonorrhoea produces all those, also orchitis, epidimytitis, and frequently sterility with both sexes. With the sterility comes a longing for offspring and marital discontent. The discontent invites adultery, adultery death or divorce, possibly both.

We give an attentive ear to the moral lepers and sensual perverts who have been delving into old Propertius or some other resurrected decadence of ancient Rome or Egypt. Something new they exclaim but it is the same old Astarte and Baal worship. Go drink the cup of bacchus, go worship at the shrine of any Venus, search out and do violence to any virtuous cords of hymen that may come our way is the atrocious advice we hear at many of the bacchanalian revelries.

We hedge the cattle, we hedge the hog and tie up the bitch in order to secure a better breed; and isn't the sister and the brother of more value than they? Whether she wishes it or not the sister is not to be a sewer for the polluted overflow of the weaker and the baser elements of the race. Society must be reorganized by evolution and revolution. We must hedge and broadly educate the youth. Wine, idleness and prostitution must be cut out. It can be done with the metropolitan center as well as with the village and individual. This is conservation and is prophylaxis up to date. The safety and perpetuity of the nation depend upon it. If we act otherwise our inheritance goes to the alien and the flesh of our daughters sacrificed to the germs of Neisser.

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DIPHTHERIA ANTITOXIN.

By J. W. Lockhart, M. D., St. John, Wash.

I am glad to read at last, in the Medical Recorder, that diphtheria antitoxin is not all that some of its friends have claimed for it. This indicates a return to saner thought in regard to that much vaunted remedy and preventative of that serious disease. It may also encourage a full and fair discussion of the therapeutic measures applicable to diphtheria.

Not long since I heard a physician say: "Antitoxin is an absolute cure and an absolute preventative of diphtheria." It occurred to me that "absolute was a very large word to use in that connection, and wholly unwarranted. I am glad to know that local applications of antitoxin have proved more efficacious as a prophylactic in

some cases than by hypodermic injections.

I will refrain from saying "I told you so" but while the vast majority of medical men were carried off their feet, so to speak, with their enthusiasm for antitoxin I continued to have splendid results with local applications and internal remedies.

More than thirty years ago in an epidemic of malignant diphtheria that came under my observation it was discovered that applications of carbolic acid and other antiseptics, locally, were of great benefit in that disease. Experience also demonstrated beyond a doubt that carbolic acid internally was a sovereign remedy as the physicians who used it were far more successful in the treatment of that disease than those who did not. It was not long until all the doctors in that locality used carbolic acid, and the epidemic was soon under control.

As the town in which I lived was not included in the epidemic I was called upon to treat but a few sporadic cases that were mild in form. I treated them with calomel, tincture of the chloride of iron, and chlorate of potash, with local applications internally and externally. The results were all that could be desired. For many years I treated practically all cases of diphtheria with calomel sufficient to clear the bowels thoroughly, quinine as a tonic, salol for the effect of carbolic acid on the system and sulphocarbolate of zinc as a gargle or spray, with hot applications externally. I also prescribed tincture of iron internally. I am fully aware that those who cannot succeed are apt to hoot at the statements of those who do, but for all that, I wish to say that I had better results from this treatment than most physicians report from antitoxin. In a practice of twenty-seven years I lost three cases of diphtheria from post-diphtheritic paraylsis, but never saw a diphtheria patient die while there was any sign of membrane in the throat.

Under this treatment as soon as the system can be brought under the influence of the carbolic acid, usually in twenty-four to forty-eight hours, the membrane begins to exfoliate and recovery is usually uninterrupted.

Those prescribing salol in conjunction with antitoxin containing carbolic acid should remember that the salol in connection with the gastric juices is split up into carbolic and salicylic acids and carbolic acid poisoning might result. In one case of this kind coming under my observation the patient came near dying from the carbolic poisoning. In a case of typhoid fever in which I was called in consultation, and the physician in charge was prescribing large doses of salol, and it was thought the patient would surely die, I diagnosed carbolic acid poisoning, and the result justified the diagnosis. The young doctor in charge was unaware of the fact that salol and carbolic acid bore any relation to each other or that there was any danger from poisoning with salol. Experience has lead me to the conclusion that salol administered internally is not only a remedy par excellence in all acute infectious diseases, but that it has an immunizing power of great value in such cases.

Some years ago I treated a most malignant case of smallpox almost entirely with quinine and salol, and with the most gratifying results. Before I saw the case the patient's wife had been exposed to the disease for four days and under the most favorable condition for infection. She had never been vaccinated and refused to be vaccinated. She was determined to nurse her husband until taken down with the disease, and as no other nurse could be had I, of course, consented. I determined to try the experiment of dosing her with quinine and salol. When the time came she had smallpox, had severe backache, headache and fever for four days, showed about one dozen postules and continued to care for her husband un-

til he was entirely convalescent. Of course, one swallow does not make a summer. I simply give these thoughts, and the results of my experience, to the profession for what they are worth, and with the hope that thought and investigation may be stimulated thereby.

PHYSIOLOGY OF MARRIAGE.

By D. L. Field, M. D., Jeffersonville, Ind.

I stated in one of my articles, that syphilitics ought not to marry; but I will amend that statement by saying that if after five or six years, there seems to be no symptoms of tertiary infection, and treatment by the old-time iodides and mercury have been faithfully pursued, it would be safe to allow such persons to marry. In these times when "Arseno-benzol," "606" or "salvarsan," as it is most commonly named, has been exhibited, even in the primary, secondary or tertiary stages, it can certainly be eradicated from the system in almost every case.

According to statistics, only about ten per cent of those who have contracted syphilis, ever reach the tertiary stage; especially if they are given thorough treatment in the early stage.

Hutchinson believes that a rule of a two years interval between syphilis and marriage, in the case of a man; appears with very rare exceptions, to be trustworthy. He suggests a much longer interval, in case of a woman. He cites a case of a woman who gave birth to tainted children after upwards of eight years; she was syphilitic before marriage; but the husband was healthy. Post says, if a man has had a light case, he might safely marry in two years; but he says they should not bear children till a longer period has elapsed. That would not do to trust.

Maurice reports "syphilis communicated to the wife, four months and a half after primary infection." What doctor has not seen many babes develop syphilitic psoriasis, a few weeks after birth? It may be transmitted to offspring through the spermatazoa, the infected ovule, and the placenta. There are cases of transmission ten or fifteen years after primary infection; at a time when such transmission is usually regarded as improbable.

It is conceded that it is particularly probable, when both parents are infected; or if only one is, and that is the mother. To be sure, with the lapse of time, the liability to infection of offspring grows less and less. According to a celebrated author, one-third of the syphilitic children die before their birth; and among those born, over one-third die in the first six months of life. Hereditary syphilis may be transmitted to the second generation. Syphilides do not appear, generally, before the third week of life. Up to the 18th year, they are not uncommon; and even later, characteristic features of the disease have developed.

Tertiary syphilitis is not virulent, yet it appears in children as latent or tertiary syphilis. A mother acquires syphilis during gestation, and she may bear a healthy child, or one having the marks of hereditary syphilis. All authorities agree that there is danger in transmission of the disease, unless the syphilitic persons are certainly cured. Therefore, to repeat, no one with the taint of the dread disease in the system, should be allowed to marry, and bring untold misery upon offspring.

Surely as a man becomes a father, his child will suffer more or less, from the effects of any abuse of the fathers constitution, up to twenty-five years of his life, i. e., of the fathers. A child born of erring parents, and taking the peculiarities of those parents, is almost sure to reap a feeble constitution, if not a diseased body. There are those who dispute the heredity of tuberculosis; but facts prove it goes from parent to offspring, to the third and fourth gen-

eration. I have known of several cases where marriages have taken place, where I knew one of the contracting parties had tuberculosis. After a child would come, the consumptive would soon die; leaving a fearful heritage to the child.

Whether the seeds of tuberculosis are transmitted; or whether, as some claim, only a constitutional tendency is inherited, is a matter of no consequence. They generally die of the disease when they arrive at manhood; or womanhood. The "tendency" thrown into life's scale decides the case in a diseased direction.

Another barrier to marriage is the alcoholic habit. If a young woman craves a happy married life, with pleasure and pride in her husband, for goodness sake never marry a man who has the slightest taste for intoxicants. She will miserably bring forth a family either of rickety children, or doomed to the dangers of dipsomania.

A celebrated author says: "There is a peculiar inherited constitution, which predisposes to dipsomania." He says: "In the course of a large experience of alcoholism among hospital and out-patients, I have been greatly struck with the number of drinkers who have informed me that the relations, either on the paternal or maternal side, have also been given to drink. The nervous enfeeblement produced in an ancestor by great excesses in drink, is reproduced in his various descendants, to the third and fourth generation. Among the higher classes, where it is easier than in the cases of the poor, to obtain tolerably complete family histories, extending over three and four generations, careful inquiry elicits facts of this kind with surprising frequency. So strong is the impression left on my mind by what I have observed in this direction, that I am inclined to believe that the great majority of most inveterate and hopeless cases, are produced by two factors, of which the least important is the circumstance of external momentary temptation, in which the patient has been placed, while the more momentous and weighty cause is derived from an inherited nervous weakness, which renders all kinds of bodily, and mental trouble, hard to be bourne. It need hardly to be remarked, in view of this case, that fatal rapidity is the rule with which habits of intemperance exaggerate themselves is only what might be expected, seeing that the nutrition of the nervous centers would be still further impaired by each successive indulgence in poisonous doses of alcohol: and the moral resistance to feelings of depression and misery would be proportionately weakened."

The practical fact from many observers is that the habits of intemperance tend to heredity. Certain families are known to exhibit exceptional proclivities for habits of intemperance; and it is known to be a physiological fact that children of drunkards frequently show a disposition to cerebro-nervous disorders which lead in many instances to early death.

PALATABLE ANTIMALARIAL REMEDIES.

By J. A. Barnett, M. D., Marble City, Okla.

There are quite a number of palatable antimalarial remedies on the market at present. The National Formulary provides for a bitterless syrup of quinine which is a useful preparation. Fibriline is a proprietary but not a secret as it is only amorphous quinine suspended in simple syrup in proportion of two to five grains to each drachm of simple syrup. Coco-Quinine (Lilly) is a palatable preparation. Euquinine (Merck) is almost without taste. Aristochin is a quinine derivative and is odorless and tasteless. I will say that as far as taste is concerned no one would object to the remedy. It is a whitish powder much less bulky than quinine

sulphate neutral in reaction and insoluble in water. It contains 96.1 per cent quinine base as compared with 72.8 per cent in quinine sulphate. This remedy is used in place of quinine . Dose 2 to 15 grains according to age; each dose can be followed with a few drops of dilute hydrochloric acid to assist in absorption if the digestive system is not in good order. Saloquinine is another quinine derivative and a very useful one as it combines the therapeutic action of both quinine and salicylic acid. It is practically tasteless and odorless, a whitish powder neutral in reaction, insoluble in water, contains 73.1 per cent of free quinine base as compared with 72.8 per cent in quinine sulphate. This preparation is not only a valuable antiperiodic but antipyretic also. Dose 5 to 30 grains for adults. If digestion is not good follow each dose with a few drops of dilute hydrochloric acid to assist absorption. Apple cider drank freely is said to be a sure cure for malaria and also one of the best and quickest remedies in jaundice. According to this it should be a valuable remedy in malarial hematuria, the so-called swamp fever, as they all become jaundiced. Extract of spleen is our organo-antimalarial. Dose 2 to 4 grains every 3 or 4 hours.

Six interesting articles on antimalarial remedies can be found as follows: Boston Medical Journal, September 5, 1911; American Medicine, April 26, 1902, May 13, 1905, June 3, 1905, February 10, 1906 and Medical Record, August 4, 1906.

Extract of spleen is practically tasteless. Iron ferrocyanide in doses of 30 to 60 grains a day is a reliable antiperiodic in malaria and is practically tasteless. Neochinin is a neutral hydrochloride cinnamyl-quinine that is said to be tasteless. It is an antiperiodic in doses of 15 to 20 grains. Quinolio is a preparation consisting of quinine sulphate 80 per cent and olive oil 20 per cent. Grain for grain it is one-quarter the bulk of quinine sulphate. It is almost tasteless and is said to contain all the tonic stimulating antipyretic and antiperiodic properties of quinine minus its irritating and nauseating action. There are several formulas of aromatic fluid extract of cinchona now on the market and as cinchona is tolerated by the system in persons that do not tolerate the action of quinine very well as well as several other advantages, these aromatic formulas are worthy of mention and are useful. Merck makes a preparation called quinium and states (Mercks 1907 Index) that it contains all constituents of cinchona bark but the woody fiber and that it is said to act better than quinine. As this is from high authority and from a noted manufacturer of alkaloids it has much weight and adds testimony to the fact that quinine or any of its alkaloids are not a substitute for cinchona and that cinchona has a place in therapeutics. P. D. & Co. make an aromatic fluid extract of cinchona. Each fluid ouce represents about

℞

Cinchona pale	328 gr.
Fl. cardamom comp	60 m.
Sweet orange peel	55 gr.

Dose ½ to 1 drachm.

The formula of P. D. & Co. fluid cardamom compound is: Each fluid ounce represents about

℞

Cardamom	91 gr.
Saigon cinnamon	91 gr.
Caraway	44 gr.
Cochineal	18 gr.

Sharp and Dohme makes an aromatic fluid extract of cinchona: Each pint represents

℞

Red cinchona	14 oz.
Cassia cinnamon	¾ oz.
Ginger	¾ oz.
Cardamom	⅜ oz.
Nutmeg	⅜ oz.

John Wyeth & Bro. make an aromatic fluid extract of cinchona: Each fluid ounce represents about

℞

Cinchona calisaya	228 gr.
Calamus	6 gr.
Ginger	6 gr.
Cardamom	6 gr.

Aromatic wine of cinchona

℞

Red cinchona	1 oz.
Coriander	15 gr.
Cinnamon	30 gr.
Sugar	2 oz.
Tartaric acid	15 gr.

Strong white wine sufficient. The drugs must be in moderately coarse powder and be extracted by the usual process, using the wine as a menstrum. Collect 16 ounces of percolate then dissolve the sugar and acid.

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The accompanying photograph is of Surgeon Major Robert Ashton, M. D., a graduate of St. Mark's College, London, and of a foreign medical university. He is the husband of our former contributor, Dr. Grace M. Norris, whose skull and other "cartoons" were greatly valued by our readers. We hope to have some more of them for publication soon.

He was an officer in the Boer war in South Africa, also in an Egyptian campaign. He has received four medals including the "Victoria Cross," and has traveled extensively in Europe, Asia and Africa and is a writer, musician and artist (in water colors) of note.

We hope to publish some of his varied and interesting experiences in the near future.

The last contribution from Dr. Norris-Ashton was published in the June 1911 number. Whether it is a fact that it was in this "month of roses," that the new co-partnership was entered into, we are not informed, as yet, but we know that the doctor has been engaged in some work concerning Indian relics, for the Smithsonian Institute, recently.

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THE SKULL'S CURSE.

By Ina E. Zoller, Mohawk, N. Y.

The young doctor sat in his lonely den,
Wrapped in thought and in wonder then;
Why his patients had all dropped away,
Not one had come for many a day,
When his gaze fell upon a skull,
A ghastly, grinning, gruesome skull,
He had bought from the sale of a doctor's effects,
Who died by his own hand a drunken wreck,
Who was said to start with prospects bright,
But suddenly a curse seemed his life to blight.
The young doctor sat pondering on all this,
And began to liken his own practice to his.

As he sat and gazed in the twilight,
In the flickering, dancing firelight,
The room suddenly seemed peopled
With beings full of joy and life.
Right in the midst of this joyful din,
The skull came boldly stalking in.
Suddenly, he saw it changed to a lady fair,
With ringlets of soft golden hair.
Her beauty was such as he'd never beheld
With its creamy tints where the ringlets fell;
Her form was like unto a goddess old,
With her draperies of gleaming gold.

She gazed all around the darkened room,
In the twilight's dusky, gathering gloom,
Until her gaze rested on the face
Of the doctor, in the darkness, nearly effaced.
What a storm of passion was in her eyes,
Sparkling bright as the stars in the sky.
How all her courtiers around her drew,
And their forms in the darkness visible grew.
Among all this noble, high born array,
As a queen she seemed to hold sway.

She turned and addressed the doctor thus
While cold water over him seemed to rush.

Thou base, wretched creature sitting here,
Who claims to belong to manhood's sphere,
Thou, who hast robbed my lowly grave,
Of its most precious heritage.
Over this earth my slaves have flown
Looking for this most treasured bone;
Now I find it here myself,
Reposing on your office shelf,
For the curious starving multitude to gaze
Upon, and a look of horror raise
As they my poor despised skull behold
That in my tomb was to mold.

Thou, false wretch, who hast not left,
A spark of manhood, thou shalt be bereft
Of all pleasure and earthly joy,
All the gold of life shall turn to alloy.
In darkness thou shall grope and moan,
Until thy heart within turns to stone,
When thou, finally, lay'st down to die,
No tear shall be shed by any eye,
Unmourned thou shalt go to thy grave,
No redeeming grace thy soul shall save.
Thy skull beside mine shall stand,
In a far away, strange heathen land.
Unless before break of another day
You return my poor skull to the clay.

Then in a softer tone, she turned and said,
Perhaps, if you know my story,
You'll do as I bid;
I was once a queen of a broad land,
With power and wealth at my command,
My dominion stretched from sea to sea,
No limit to my power there seemed to be.
In the height of my fame I suddenly died,
I was mourned far and wide,
My body was placed in a beautiful tomb,
Grand as any stately palace room.
There in peace for many years I lay,
My early form slowly began to decay.

Years passed on, I was nearly forgotten,
The door of my tomb was fallen and rotten.
Then one of your curious countrymen came,
And robbed my tomb of this skull, by name,
For many years my slaves have sought,
For this, which for gold could not be bought.
For years, we have sought everywhere in vain,
Every day from early morn until the day did wane.
Since then my curse has surely blighted
All who with my skull were delighted.

The doctor awoke, as from a dream,
Her presence in the room still did gleam.
That night before he sought his bed,
He took the skull, of which he had a dread,
And placed it in a beautiful casket of gold,
As befitted a royal queen of old.
He hurriedly returned it to the clay,
Before the break of another day.
Her spirit haunts him no more,
The curse seems lifted from his door.
Practice and wealth came as they did before.
He placed that skull over his office door.

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MURDERERS' MUSCULAR DEVELOPMENT.

Sixty Frenchmen condemned to death for murder have been examined with special reference to their muscular development. Their ages varied widely. There were four of seventeen, ten of nineteen, nine of twenty-one, eight between twenty-two and twenty-five, fifteen between twenty-six and thirty, twelve between thirty-one and forty; two were more than fifty.

The majority belonged to the massive muscular type, all parts of the body except the chest being highly developed. But there as an unexpectedly large proportion—eleven out of the sixty—who must be classed as cerebral; that is to say, who were muscularly puny but of acute intelligence. These had committed crimes that needed no muscular effort, most of them having killed women by shooting with revolvers.

The experts who examined these murderers deduce from these statistics that the criminal tendencies of homicides are generally the result of arrested or distorted development arising between the ages of fifteen and twenty.

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The diagram published in February number is of the office of Dr. J. P. Brandon, Essex, Mo. The decision, as to whom shall have the premium will be announced soon, if no new competitors appear. See advertising page XXII in November number.

QUERIES AND ANSWERS

QUERIES.

1. Treatment of Gallstone colic desired, chronic and acute cases.

2. How can I treat a case of renal calculi and what becomes of the calculus after it reaches the bladder, in most cases?

4. I want to know the best and most reliable plan of treatment for Pellagra.

5. How shall we charge for various kinds of services, looking toward an ultimate standardization of fees of universal application?

6. A detailed management of confinement cases, normal and abnormal.

7. Treatment of infected wounds.

8. Explain proper use of arseno, benzol, cacodylate of sodium in syphilis.

ANSWERS TO QUERIES

By R. B. Hopkins, M. D., Milton, Del.

No. 1.

Should a doctor give any attention to local politics? Yes, in so far as it does not interfere with his practice. I would not recommend a doctor to accept a political office—but the influence he can wield for good in politics should not be withheld. Always endeavor to be on the side of right, irrespective of party.

No. 2.

Is a negative laboratory report sufficient basis for not reporting a case of diphtheria for quarantine in the face of strongly suspicious symptoms? No. If in doubt, quarantine. If the case should prove not to be diphtheria you have erred in the right direction—better be overzealous and careful in contagious disease. You relieve your own mind and have the consciousness of having discharged your responsibility to the family and community. In doubtful cases always quarantine and you will never make a mistake.

No. 3.

What can be done, if anything, to abort an attack of pneumonia? A good purgative of calomel and jalap—followed by a saline, while it is not abortive, but will place the system in a better condition, avoid complications and possibly modify the severity of the symptoms. I am sure I have seen good results from this pulmonary treatment.

PNEUMONIA ABORTED.

We were taught, while in Medical College, that "Colds" could be "broken up" and Pneumonia aborted by giving two grains each of Quinine Sulphate and Diaphoretic Powder combined with ¼ or ½ grain of powdered Capsicum, at bed-time and every four hours when needed. This statement we believe that we have proven true in scores of instances from that day to this. We still have a firm faith in it's efficacy. Perhaps the more notable to our mind, because so many of the therapeutic "sure things" urged upon us at that time, by our teachers, we were unable to verify by actual practice, much to our discomfiture and discouragement, in our early attempts to succeed by the imitation of others, which led us to believe, that, to a very large degree, we have to work out our own therapy, especially as to dosage and details of administration. The Diaphoretic Powder mentioned above is what it's name implies, in so far as it is quite sure to produce diaphoresis. It differs from Dover's Powder in the use of Powdered Asclepias Tuberosa in place of Ipecac. It has the same opium strength as that preparation. J. V. S.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Janesville, Wis.

PHYTOLACCA DECANDRA.

This is a very valuable remedy in all cases of enlarged or engorged glandular structures, of either the acute or the chronic type.

In those parts of the U. S. where poke or scoke or garget root is indigenous and where the plant is sometimes known as pigeon berries besides the other names mentioned, it came into use as a domestic remedy years ago.

It can, and should be used both internally and externally. It should be given in small doses of from one to two drops well diluted with water.

A tincture of the green root, preferably gathered in September should be used. We would attach great importance to the necessity of having this preparation of the drug, as we have tried some preparations in the market as fluid extracts and have found them to be inert.

Our patients have called our attention to the fact that they were not having the same results as when using another preparation. It can be applied externally to the entire surface of a gland, either in full strength or with an equal quantity of glycerine, three or four times a day, a camel's hair pencil can be used to make the application with. We have had surprisingly good results using it in orchitis and in enlargements of the thyroid and mammary gland and the cervical glands accompanying or as a sequalae of diphtheria, scarlet fever and parotitis.

It will prevent suppuration in a large majority of cases, in fact, we have never met with a failure in our attempt to do so, where the remedy was used early and faithfully. It has required six weeks time in some obstinate cases. We wish to emphasize the importance of a reliable preparation of the green root being used in all cases. It increases waste and improves nutrition. In large doses it is a narcotic poison.

ACONITE.

We remember very well when the homeopaths and the electics were the only ones who used aconite as a remedy.

It has, however, come into regular and very general use by practitioners. The name "children's remedy" has been given to it by many. When used in proper sized doses to meet conditions indicating its use it is extremely reliable and gives very satisfactory results.

It may be given in all cases having a high temperature, with a rapid, weak pulse. It should be given in very small doses frequently repeated, 1/8 to 1/4 of a drop with plenty of water, is enough for small children, even less for infants and not much more is required for adults, if a good prepartion of the root is used.

Some diaphoresis may be confidently expected in from 1/2 to three hours, usually, giving a dose every hour. It also allays nervous excitement accompanying the pyrexia usually.

Besides its use in this way in other acute conditions, it is an excellent remedy in spasmodic laryngitis and may appropriately enter into the treatment of chronic as well as acute cases where the pulse is too fast and weak.

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When at the bedside of a loved one, night's long hours
Have slowly marched to meet the dawn,
When the pallid face upon the pillow,
Makes the gray of morn to seem more gray;
Then it is that one's hope burns low.

When loving care and earnestness in prayer,
Seem for the ailing one to be of no avail:
When the Father seems not to hear
The pitying heartache's sincere appeal:
Then it is that one's faith burns low.

S. J. B., Champaign, Ill.

BUSINESS SIDE OF THE DOCTOR'S LIFE

THE DOCTOR IN POLITICS.

By N. R. Price, M. D., Marlington, W. Va.

The January Recorder contains an excellent editorial on "the Doctor and Business Success." After dealing with the doctors who seem unable to resist stealing patients, or at least butting in on cases after consultation is had, and that other type of hero in medicine who is always saving lives by being called just in the nick of time, and pointing out that no permanent prosperity can be enjoyed by physicians guilty of such shallow methods of gaining reputation and business, the editor goes on to say that the doctor should not engage in poltics, except to vote right, discriminating between principles and parties, and vote for men and measures, and not in a partisan way, which is all very good as far as it goes.

Now I have been practicing medicine actively for ten years, during five of which I have held some elective office or other, and am now holding an office; (President Board of County Commissioners, or County Court, as it is called in West Virginia), which term does not expire until 1916, so we feel inclined to say something in defense of the Doctor engaging rather actively in politics, even to the extent of running for office.

Local conditions in West Virginia are heated politically, the state swinging both ways, and just now its very uncertainty is giving it a prominence in national politics that its mere numerical strength does not entitle it to. It would seem that a physician should refrain from entering actively into politics here, if anywhere, where political contests are apt to be close and fought out with bitterness. However I believe that under such conditions the physician, who is, or should be, an honest and enlightened man, should assert his manhood and independence and if need be run for office, if the conditions of local government seem to require his type of man in office.

It may be that this or that man's business may be lost to the doctor following the heat of contest, or during the administration, but often a friend is gained for one lost, and the doctor revolves in his little orbit about as usual, and the end of the year shows about as much business or more, as when his time was not sacrificed politically, or business estranged by political rancor. It seems to me that doctors and preachers are apt to pussy-foot it in the community until they are rightly consigned to the society of the ladies and children, and are scarcely conceded the rights of independent thought and action that becomes every freeborn American citizen. If I deemed it incumbent, or even expedient, to resign my freedom of thought or independence of action respecting the local government of the community in which I live, and in which every good citizen should take the keenest sort of interest, why I would speedily get out of a profession so narrowing, and in some other line of effort earn the right to life, liberty and the pursuit of happiness, and the independence that well becomes a man.

My observation of the doctors who are always and forever "too busy" to attend a convention or town board meeting, or state or local medical society, are not usually the leaders in their professional work, even in the communities in which they live. The rule holds good, if you want a thing done get a man who works to do it, not the one who is merely busy.

The manly and independent physician is apt to be a fairly good business man, a good collector, specializing in some line whereby he can give most of his time to office practice, or at least working to that end, and not spending much time running about the country

calling on people who will never pay him. Many of our physicians, in fact most, are men who are thrust into the midst of things at a tender age, following a high school and medical course, and thus handicapped have struggled through a long life, never rightly appreciating, or able to cope with, the ordinary cussedness of human nature. The grocers boy or the journeyman printer has better appreciation of these things than the average young doctor at the ushering in of his medical career. If he succeeds measurably, it is by holding on and gaining in the hard school of experience. Some of the best doctors of my acquaintance are men who lacking help in early youth have engaged in some form of effort that has brought them in intimate contact with their fellowman, and rather late in life perhaps took up the study and practice of medicine. Then, when armed with a medical diploma, they located for the practice, could at least meet men as men, and use ordinary business sense in dealing with their clients, insuring a competency and the self respect and confident bearing pertaining thereto.

In conclusion, politically, to the doctor: run for office if you have a "call," and think you can be elected, and if there is some real need for intelligence and zeal in the particular position to which you aspire. Never run to be a running. If you get in a contest of this kind, conduct yourself so that your adversary will beware of you next time. It is usually some minor office but one of great importance to the community, town council, school board or legislature. Endeavor to familiarize yourself early with the duties of the office, and make good. When done with the job in hand, then quit until some occasion rises which calls for the peculiar knowledge and abilities you have gained by former experience.

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Note—This most excellent paper does not differ very much, after all, from the opinions editorially expressed on the same subject. We desire to emphatically endorse the author's idea of being a "manly" man and not afraid to have decided opinions nor afraid to express or exemplify them on all suitable occasions.

We said in the November number, page 298: "Do not be afraid to show your colors respecting questions involving right and wrong and help all good causes that you can."

We have known a number of instances where doctors have been invaluable members of Boards of Education and we too have observed that the really "busy man" is the best one to interest in any good cause requiring good service and faithful attention.

We are convinced that the doctor is the "right man in the right place" and undoubtedly "called" to serve his community in this way and that he will find time to do as much and as good work in his profession too, as most of his competitors.

Undoubtedly the necessity of learning something of business and to care for one's self prior to graduation as an M. D. tends to give ultimate success.

—J. V. S.

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BUSINESS SUCCESS IN THE PRACTICE OF MEDICINE.

There are many members of the senior classes in the medical colleges that are, and have been for some time, thinking of how they can attain business as well as professional success in their chosen life work. Not a few of those who have been in practice for a time are pondering the same question. We have watched the careers of many others in the past thirty years and particularly those who have graduated from classes that we have taught during the past twenty years and we will advance some propositions, that we believe are correct and will help the aver-

age doctor to achieve the success, to which he is entitled.

In the fist place we do not think it a bad idea for the recent graduate to go to some place where he can find an unopposed practice. We advise doing this, rather than to locate in some large city, if for no other reason, because he will have a varied experience and will have to act in emergencies depending on his own resources, instead of calling for help from one of his teachers, or some one else, whom he knows to be friendly, to help him do what he is really capable of doing for himself. The necessary confidence is one's ability to do as well, at least, as the average competitor one has, is a very important factor in attaining success and it is gained in this way much quicker than in any other way, we think. The next best place for a location is where the competition is not too great and the competitors are old practitioners. They should have amassed a comfortable competency and be willing that the newcomer should do the least desirable business and to make the long night drives, especially in bad weather, and doctor all of the "poor pay folks," and they usually are. Even if the new doctor had that most desirable post graduate course, a hospital training, he still needs the actual bedside experience of private work in the home of his patient and to learn to contend with disease without the help of the trained nurse, with whom he has been sharing the responsibility, so largely, at the hospital.

The proportion of immediate earnings to the expense account is greatly in favor of the outside location.

If a term of years of such work enables one to acquire a sufficient sum to make it possible to remove to some larger place or city, where there are good prospects of securing work, or if one desires to fit themselves for some special work and can wait for patronage afterwards, it is quite suitable that they should do so. The one who essays to be a specialist without first having had an experience in coping with disease in its various forms as seen in general practice, is badly handicapped, we think. There is only room for a few specialists in any branch of the practice of medicine and surgery and therefore many must be content to be, that most helpful of all doctors, the so-called, general practitioner.

We are convinced that the chances of finding just the place where one can succeed in any phenomenal way are very slight and that the confidence of the people is only won after they have had a chance to become acquainted with you and in some measure with what it appears you can do in your professional work, therefore it is to be expected that it will take from one to three years to build up a practic anywhere that is worth having and much longer in any city of considerable size. Frequent removals are undesirable and unprofitable we are sure.

The same methods and mannerisms that the public have either approved or condoned in the practitioner of a decade or two ago will not be tolerated in the doctor of the present day. It appears to us that the road to popularity, that some have used, more recently, by recommending and performing many elective operations has become considerably well-worn and is not as serviceable in most communities now as it has been in the past. At least commercialism and selfish reasons for advising operative procedures must be eliminated, which we are sure the people have concluded had not always been done recently. We have observed an increasing demand for a thorough physical examination prior to the making of a diganosis and that patients are much better satisfied when systematic methods are employed, than when a doctor is hasty and careless about establishing a diagnosis or finding out the exact condition of the patient. Two good mottoes for a doc-

tor are: "Take nothing for granted" and "Guessing or do you know."

A doctor should not remain in his office so closely, waiting for calls, that no one ever sees him, scarcely, but he should endeavor to accompany his wife to all suitable public assemblages, such as to church, where he can go as regularly as most people, if he will let his patrons know that he intends to go, lectures and social entertainments. He owes this to himself and to his wife. Of course he is expected to have a betterhalf and certainly should have, because he will find single life a handicap and, in fact, ought to. He needs the comforts and compensations of a happy home as badly as any one can, to keep him cheerful and interested in his work. It is not a bad advertisement to be known as the "high-priced" doctor, provided that he is also known as the honest and conscientious doctor who will not multiply visits to make up for "cut prices," in other words charge the full fee rate and only go to see your patient when it is necessary and do not prey upon their fears to make them willing to have you make unnecessary calls, as we see some unworthy members of the profession doing. Be resolutely determined that you will not speak ill of any competitor, rather say nothing, unless you feel willing to praise him.

It may take somewhat longer to build up a practice in this way than to pursue unethical and sensational methods and try to force ones self upon the attention of the public, but the patrons secured in the ways advised will be of a better class of people, who are not so likely to be influenced by the other methods and whose patronage, once secured is more valuable and more permanent.

Besides it is of great value to be able to retain our self-respect and it tends to lead us to try to continually endeavor to keep up with the progress of medical science, that we may conscientiously feel that we are prepared to give people proper attention and advice in their ailments and that they are not making any mistake in employing us in preference to any other practitioner in our community.

I am not pleading for egotism, but for that preparation and most careful attention to our professional work and study, that entitles us to feel that we are not endangering the best interests of those who employ us, by failing to give them the most skillful attention that we are capable of.

At least we can be safe advisers and honest enough to admit our limitations in any given case and call for the assistance of those in our profession, who are able to assist us in our efforts to successfully combat diseased and traumatic conditions. Here again, the known ethical reputation of a brother practitioner often decides whether he will be called as consultant or not, quite as much as his proficiency in our work. Therefore, it pays in every way to be ethical. It also materially assists us in endeavoring to succeed in retaining our own respect and that of other members of the profession.

Let us try to do all our professional work promptly, cheerfully, faithfully and as skillfully as we can and if we follow out the advice herewith given, we will eventually succeed in any community in which we may locate and remain, leading a good upright life, that we will be willing to have our own children and those of other people follow, as an example. —J. V. S.

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OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.
Janesville, Wis.

A QUICK METHOD FOR ENUCLEATING THE EYE.

It is often desirable to remove an eye very quickly. Wm. Robinson, F. R. C. S. of the Royal Infirmary and the Dunham County Eye Infirmary, Sunderland, England, uses a quick and easy method of enucleation which he describes in the British Medical Journal. He says:

It has been suggested to me several times that I should publish a description of the simple way in which I remove an eye. It is as follows:

The only instruments required are: An eye speculum, a pair of toothed fixation forceps, a small pair of blunt pointed scissors (straight or curved on the flat), and a curved needle threaded with fine iodized catgut.

The patient is anesthetized. Unless the surgeon be ambidextrous to remove the right eyeball he stands at the head of the table, and to remove the left at the patient's left side. The speculum is inserted. The eyeball is grasped from above downwards with the fixation forceps rather more than one-third of an inch behind the outer margin of the cornea, a firm hold being taken of all the structures down to the sclerotic and including the tendon of insertion of the external rectus. This tendon is inserted into the globe ¼ inch from the cornea. The hold with the forceps is to be retained until the eyeball is re-[illegible]oved. A firm snip with the scissors, [illegible]sing their nose well against the [illegible] divides the conjunctiva, Tenon's [illegible] and generally most of the ten-[illegible]bres of the muscle. With addi-[illegible] snips the tendon is completely [illegible]ided. One blade of the scissors is now pushed well home under the conjunctiva, first above and then below the cornea, and that membrane is divided around and as close up to the cornea as possible. No more conjunctiva than is necessary should be removed in order that a plentiful lining may be left to the socket. By rotating the eyeball as far inwards as possible the optic nerve is brought close up to the outer canthus, and is easily divided either near to or far back from the eyeball as circumstances may require. The eyeball can now be lifted well out between the lids, held apart by the speculum, with the forceps, which are still retaining their original hold, and the various muscles easily divided by the aid of sight at their insertions into the globe. The whole of this process frequently does not occupy more than one minute. The bleeding is staunched. The cut edges of the conjunctiva and subjacent structures are now sutured, beginning at the inner side. After pulling the cut edges well out between the lids with the forceps, the first stitch is inserted and tied. By keeping the thread sufficiently taut with the left hand the cut edges of the conjunctiva are kept outside the lids and the subsequent passages of the needle are greatly facilitated. By passing the needle twice through the last loop before pulling it tight the end of the suture is then secured. The speculum is now removed. Careful suturing prevents the formulation of the troublesome button of granulation tissue which otherwise forms.

MODIFICATIONS.

1. The order of procedure may be reversed by dividing the internal rectus tendon first.

2. If it be desired to sew the cut tendons of the lateral straight muscles to-

gether and those of the superior and inferior straight muscles, to facilitate the process, each of the tendons should be caught by a fine pair of catch forceps before division.

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MODERN EYESIGHT.

The large number of persons wearing glasses at the present time often causes wonder as to the reason. A prominent English optician, James Aitchinson, in a communication to the London Standard, well explains the necessity of glasses. What he says regarding the English is equally true in this country as the following shows:

With reference to Dr. Lindsay Johnson's statement that some 22 millions of the people of the United Kingdom require glasses, to my mind even this figure underestimates the true proportion. But assuming that he is correct this at first sight appears to be an alarming degeneration. But this is not so in fact. It is mainly a sign of advanced education and greater wisdom. Nowadays vast numbers of people wear glasses, not to improve vision or see better, but purely to prevent ocular exertion and consequent strain.

The necessity for this arises from the fact that we are daily becoming more a nation of mental than physical laborers, and I think it is accepted by all that weariness from mental overwork is far more distressing than physical exhaustion. The man who toils and expends little mental energy can at the end of the day take his ease with that delicious feeling of rest which is quite foreign to the mental worker. Herein lies the secret of the increase of spectacle wearers.

It is found, and proved beyond a doubt by the experience of thousands, that the correction of the smaller errors of refraction (which were ignored by the old school) causes an immense saving in nervous energy. The individual whose eyes are thus corrected can turn that energy which was previously wasted to more useful account, whether in business, studying, or home life, and, at the same time, become less irritated with the worries and difficulties of the day.

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OBSERVATIONS.

Adenoids and mental activity are not found together.

The purest drugs obtainable should always be used in ophthalmic work.

It is not as easy to ligate a bleeding tonsillar artery as some operators intimate.

It is now generally recognized that hemorrhage is a real danger in adenoid and tonsil operations.

Iron subsulphate is a good application in hemorrhage after tonsil operations. Monsel's powder may be moistened with water and applied as a paste.

English rhinologists are using bismuth subnitrate gauze as a packing after nasal operations. They claim it can be left in situ longer than any other packing.

Several recent reports of death from the modern application of tonsillectomy show that the danger of hemorrhage is not so slight as some writers state. Complete enucleation of the tonsil, should be considered a major operation and should b performed in a hospital where there are conveniences for emergencies.

Dr. C. F. Theisen, of Albany, N. Y., has reported some wonderful results from the injection of normal blood serum ,of the horse for hemorrhage either spontaneous or post-operative. In hemorrhage after tonsillectomy he has had remarkable results. When he could not get horse serum he used antitoxin for the effect of the serum.

The Wisconsin
Medical Recorder

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ORIGINAL ARTICLES are solicited from our readers. We wish articles which are sent us to be contributed exclusively to this magazine. We will send the writer of any original article, if desired, twenty-five extra copies of the number containing the article. We are also willing to send copies to the professional friends of the author.

LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 MARCH, 1912 No. 3

CHILD WELFARE BUREAU.

Senator Borah's bill that passed the U. S. Senate with such a large majority, we hope will be acted upon favorably by the House of Representatives, promptly. It is such an important and meritorious measure that for once all good citizens can and should unite in asking their representatives in Congress to help to enact this most necessary and wholesome law.

The "Bill" simply proposes to establish in the Department of Commerce and Labor a bureau to be known as the Children's Bureau to be under the direction of a chief to be appointed by the President, by and with the advice and consent of the Senate, who shall receive an annual compensation of $5,000.00. This Children's Bureau is to investigate and report upon all matters pertaining to child life and to the welfare of children, especially the questions of infant mortality, the birth rate, orphanage, juvenile courts, desertion, dangerous occupations, accidents, and diseases of children, employment, legislation affecting children in the several states and territories, and such other facts as have a bearing on the welfare of children in any way.

In his advocacy of the bill Senator Borah said, among other things, that: "For the year 1910 the appropriations made by the Government for the investigation of plant industries and pathological collections amounted to $22,930; for the control of cotton, truck and forage crops, $24,860; for the investigation and improvements of tobacco and methods of production, $26,630; for control of diseases of orchard and other fruit, $42,075; for experiments and investigation of animal indutsry, $47,480; for eradication of southern cattle ticks, $250,000. The total expenditures for the Bureau of Animal Industries are, $1,654,750, and the total expenditures of the Bureau of Plant Industry, $2,061,686. It is estimated, that we have in this country 140,000 dependent children, and that some twenty-five or thirty million dollars, or perhaps a greater figure, is expended each year through the activities of private organizations and charitable institutions for the betterment of the conditions of these dependent children.

"This bill is designed to make this work more intelligent and enable them to expend their money in a way which will be more beneficial to the children as well as to aid in matters of State legislation; and it occurs to me that where so many lives and the future success of so many are involved, the small appropriation of $29,000 or $30,000 ought not to be withheld in aid of those who are expending such large sums and devoting, unselfishly, their efforts to this great cause." This is a portion of the great speech made by the eloquent Senator in

answer to Senator Heyburn, who had opposed the bill as unnecessary and expensive, etc.

When it is considered that the National Government is so deeply engaged in the conservation of our other resources and has not, as yet done anything for the conservation of the most important of all a nation's resource and without which no nation could exist or perpetuate itself, I am sure that all our readers will agree with the eloquent advocate as to it's necessity and importance and help to secure the needed legislation to assist in this meager way in advancing the work that is being done for child welfare. It is proven by tests, that have been made and that uniformly agree with each other, that at least fifty per cent of the appalling mortality of 20% in infants in the first year of life can be prevented. It must be done and you and I are under obligation to help to do it. —J. V. S.

PERSONAL COMMENT.

We regret very much to learn from the last number of the Milwaukee Medical Journal'' edited by our friend Dr. W. H. Neilson, and published by his son, Dr. G. W. Nielson, that he has decided to suspend its publication.

We are especially concerned, because of the reason for this suspension, it being on account of his recent severe illness, which has caused him to conclude that it is best for him to do less work of this, and other kinds. We reluctantly agree, that this may be a wise procedure, but we shall certainly miss the monthly visits of the journal, which, besides reminding us of our many pleasant meetings with the editor and in consultation at the bedside of the sick, when we had the benefit of his skillful counsel, always contained many instructive editorials and other helpful papers.

Perhaps, due in a measure, to the very great respect, that we have for the doctor and his professional attainments, his journal was one of those among our exchanges, that we always conned eagerly and thoroughly, as soon as possible after its arrival. We hope to hear, soon, that the doctor has fully regained his health and that he will not desert the realms of medical journalism and medical teaching that he has honored and graced for so many years.

His ''retrospect'' and description of the attack of ''Rheumatic Fever'' which he had in January last, and the treatment taken for it, are interesting reading. —J. V. S.

PREHISTORIC MAN.

Apropos of the paper in the December ''Recorder,'' entitled ''The Skull of a Briton,'' (illustrated), we note that a skeleton has been found near Ipswich, England.

All scientists agree that this is the skeleton of a man living not less than 100,000 years ago, was about 5 feet and 10 inches in height.

The skull was somewhat small in proportion and was flattened and elongated at the back side of the head, but indicated a high order of intelligence. ''It is a strange fact that this man who lived when the polar regions were inhabitable and the Mammoth was still common in Europe, was of a modern type.'' —J. V. S.

Dr. John W. Wainwright of New York City has purchased the ''American Practitioner and News'' of Louisville, Ky. and the ''New England Medical Monthly'' of Boston, Mass., and will publish them as one combined journal, under the name of the ''American Practitioner,'' from No. 80 Washington Square East, New York City. We wish the publication and the publisher great success. —J. V. S.

JEFFERSON PARK HOSPITAL

This hospital has fifty beds, most of them single with a few double rooms with one ward of eight beds. The operating room is fitted with every modern appliance and conveniently situated for the purpose of demonstrating some of the surgical work done here to students of Bennett College, whose President, John Dill Robertson, B. S., M. D., is the proprietor of the hospital. He is also an attending surgeon at Cook County Hospital. The surgical clinic classes witness the operations, arranged for them from the amphitheater seating 150 at a time.

This is also utilized as a class room for the training school for nurses, maintained in connection with the hospital, with an average attendance of from 25 to 30. The hospital staff consists of a resident physician, two members of the Senior Class at Bennett, acting as internes, three surgical nurses and ten on duty in the wards and private rooms. The hospital is filled with patients most of the time. It is a fine building entirely devoted to hospital purposes and in a quiet and easily accessible location at the N. W. corner of West Monroe and Loomis Sts., Chicago.

The changed attitude of the public toward hospitals that prevails now as compared with that of even a few years ago, is causing a demand for more hospitals, as the larger ones are not able to provide for the prompt and proper care of all who need hospital care and attention.

The smaller hospitals are patronized by many persons, besides those who are to have elective and major operations performed and afford a very necessary facility for caring for those who are accidentally injured in the complex and dangerous life on the city streets and in the factories and other mechanical pursuits, in which so many of our citizens are engaged.

They also afford a chance for medical students to secure this training, who can not be provided for in the larger institutions. More and better hospital facilities are also being provided for the smaller cities to supply an increasing and insistent demand. —J. V. S.

THE DOCTOR'S LIBRARY

THE TAYLOR POCKET CASE RECORD, by J. J. Taylor, M. D., Copyrighted in 1911, by the Medical Council Company and published by them at 42nd and Chestnut Sts., Philadelphia, Pa., is sold for $1.00.

About 120 cases can be recorded in this book. This book could not have been designed by any one but a physician, that understands the extreme importance of a systematic record of both office and bedside cases, as an aid to the doctor who aims to be a thorough and reliable diagnostician. It overcomes the objection sometimes made to larger and more elaborate case records, because it is easily carried in the pocket. It is a model, in the arrangement of the space which is devoted to prepared blanks that make the recording of the necessary and salient points of each case easy and expeditious. It will not only afford much data, that one will consult again, but consulting it occasioally will prevent the busy practioner from asking many questions the second time, because he has forgotten that they have been asked before, or the answers previously given.

We think that there is no question that the constant use of a Case Record tends to carefulness and exactitude in establishing a diagnosis and will enable one to give of their experience to their brethren in the profession at any convenient time, in a way that can not be done without the use of a book of this kind.

We think that emphasis should be placed on the opportunity to make a concise statement of the bedside cases, at the time of the visit. This will relieve the mind of a considerable burden and tend to impress the people, that a proper interest is being taken in the case. The day of hasty visits and snap judgment diagnoses is past, no one who wishes to succeed can afford to attempt to make them. The Syllabus in the book, that clearly outlines the most important points and the best manner of securing them in proper order, is a very valuable feature.

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BLAIR'S POCKET THERAPEUTICS. A Practitioner's Handbook of Medical Treatment. Based upon authoritative and practical methods and a rational treatment of symptoms. Contains many means not mentioned in the textbooks. and a plan for the solution of the vexed question of Drug Dosage. By Thomas S. Blair, M. D., Neurologist Harrisburgh, Pa. Hospital. Author of a Practitioner's Handbook of Materia Medica and of Public Hygiene. Member of American Medical Association, etc., etc. Publish d by the Medical Council Co., Philadelphia, Pa. Price $1.25.

This book of over 350 pages contains much information that any doctor will like to have within reach as an aid to him in his daily work. The index of diseases is very complete and refers the one consulting it to the notes on the medicinal agents that are recommended for their amelioration. The therapeutic recommendations that we investigated seemed to be very concisely and helpfully stated. It is a time saver and will, at least, serve as a convenient reminder of some half-forgotten remedial agent or suggest one not previously used.

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A COMPEND OF GYNECOLOGY by William Hughes Wells, M. D., Associate in Obstetrics in the Jefferson Medical College Hospital, Assistant Obstetrician in the Jefferson Medical College Hospital, Fellow of the College of Physicians of Philadelphia, etc., etc. Published by P. Blakiston's Son & Co.,, Philadelphia, Penn. Price $1.00.

This is the fourth edition of this work

of nearly 300 pages and is a strictly up-to-date'' condensed work that will afford the practitioner or student a very comprehensive view, in an easily usable form, of the topics indicated by its title. It is profusely and very appropriately illustrated with drawings and descriptions of recently devised instruments and operations. It is revised and re-written and published recently, making it a dependable and instructive hand book of much value.

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P. Blakiston's Son and Co. have just issued the second edition of a Compend of Genito-Urinary Diseases and Syphilis, including their Surgery and treatment by Charles S. Hirsch, M. D., Philadelphia, Penn., Consulting Physician, Social Service Hospital and Juvenile Protective Association, Philadelphia. Formerly Assistant in the Genito-Urinary Surgical Department, Jefferson Medical College Hospital. This book of over 350 pages and more than seventy illustrations is in very available form for reliable formation in the newer methods of surgical and medical treatment of these diseases. It is carefully arranged for quick reference and affords the needed helpful suggestions in the smallest possible space, being thus a great time saver. The very complete index is a valuable feature too. The volume can be had of the publishers at $1.25.

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The Therapeutic Publishing Com, pany, Boston, Mass., issued late in 1911, a book entitled ''Definite Medication'' by Eli G. Jones, M. D., author of ''Manual of Health,'' ''Rational Treatment of Cancer,'' etc., etc. In this book of over three hundred pages the author has ,divided the book into chapters which give, after the first one on Practical Diagnosis, special remedies for the different functions of the human body, such as the Brain and Spine, Organs of Respiration, Heart, Stomach and Intestinal Canal, Eye and Ear, Nervous System, Dipsomania, Menopause, etc., etc. Twenty-one chapters in all. It is a convenient reference book for special therapeutic indications and will prove of service to anyone looking for such references. The publishers announce the appearance of another book by Dr. Jones soon, with the title of ''The causes, symptoms and treatment for cancer in its various forms.'' The Therapeutic Publishing Co., is located at 703 Washington St., Dorchester District, Boston, Mass.

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Each change of season brings with it its diseases seemingly peculiar to the time.

The Bloodless Phlebotomist, for January reflects the experience of many physicians upon this timely subject.

At this season, when pneumonia and bronchitis demand the call of the physician, literature presenting the experience of fellow practitioners, in the successful handling of these cases would seem most apropos.

Summer with its intestinal disorders, sunburn, insect bites, ivy poisoning, etc.

Fall presents for the attention of the physician its typhoid cases and winter and early spring its regular quota of pneumonic, bronchial, throat and other chest conditions.

A postal card addressed to the Bloodless Phlebotomist, No. 57 Laight Street, New York, will bring you a copy of the January issue.

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N. J. Garriker, of Kansas City, reports the successful treatment of Phlegmasia alba dolens by the use of macrotys, pulsatilla, gelsemium and aconite, with aspirin to ease pain, intrauterine antiseptics followed by echinacea internally, and by calcidin. A complete cure resulted.

LETTERS OF COMMENDATION

From Both Readers and Advertisers

I want to congratulate you upon the continued improvement of the Recorder, which is very apparent from month to month. Your "Queries" column is a good addition, as it will open up many avenues for discussion and will act as a stimulant to your contributors, in that it will give them new ideas. A suggestion, ask for symposiums upon different diseases.

Very sincerely,
GEO. L. SERVOSS, M. D.

NOTE—The suggestion is a valuable one and we request our readers to contribute short papers on Pneumonia and Bronchitis for April number.

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Halstead, Kans., Mar. 2, 1912.
Wisconsin Medical Recorder,
Janesville, Wis.
Dear Doctor:

I am getting along in years. Have been in the business since 1877. I am not doing much work now, but I do enjoy reading your Medical Recorder. I received the February number yesterday and it was fine. So I thought I would send you a check to cheer your heart and mind. I can truly say you are getting up a splendid journal and I wish you much success. You can send the labels with my name as above. Yours,

E. M. HOOVER, M. D.

♣ ♣ ♣

Janesville, Wis.,

Dr. ————

dear sir,

I want a baby with dark blue eyes and if you havnt got a sister baby bring a boy baby. I want one baby. I think I would take whatever you brought. I want little hands and feet. I want one that don't cry all the time. I want a baby with curly light hair. I want a baby that is german, dutch mixed.

LEROY.

P. S. You can send the bill to papa.

(Verbatim copy, author not seven years old.)

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If you change your address please inform us, giving both old and new address.

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Please do not make remittances with personal checks unless fifteen cents is added to pay cost of collection.

♣ ♣ ♣

Whenever the atmosphere is damp or hot the best gummed labels will stick together unless kept loose and separated.

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In remitting kindly send by bank draft, post office money order, express money order or registered letter; if these methods are not available please send one-cent or two-cent postage stamps. Please do not remit by personal check unless fifteen cents extra is added, as banks now charge for collecting them.

♣ ♣ ♣

No premium labels will be given with subscriptions paid with personal checks unless exchange is added. We are obliged to pay the cost of collecting personal checks, and cannot afford to pay this and give the labels. Subscriptions paid with personal checks will be entered without premium labels and we will stand the cost of collecting in place of giving labels.

Wisconsin Medical Recorder

A Monthly Journal of Medicine and Surgery, devoted to the best interests of the profession

VOL. XV APRIL, 1912 No. 4

IMMUNITY—ITS DIFFERENT PHASES

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

Immunity may be described as an increased resistance of any animal or individual against some disease. This condition may exist from birth, when it is called natural immunity, or be acquired in various ways during afterlife. This is called acquired immunity. It is with the latter form that we shall deal in this article.

There are two principal ways in which immunity may be acquired. These are (1) by an attack of the disease, and (2) by artificial inoculation with various factors capable of producing the disease. The former is known as natural acquired immunity and the latter as artificial acquired immunity.

And, finally, when artificial immunity is produced, it may be of two different kinds, which are called respectively active and passive. The difference depends on the fact that in producing an active immunity we inoculate with agents which cause the production of antibodies in the serum of the animal. If we wish to produce a passive immunity we inoculate with serum from another animal which has previously been given active immunity. This serum contains the antibodies already made.

Active immunity takes some time to develop after inoculation, as the antibodies form slowly. It is of comparatively long duration when once established.

Passive immunity, on the other hand, ensues immediately after the introduction of the immune serum, with its ready-made antibodies. It is, however, of only short duration as compared with active immunity.

An example of active immunization is the old practice of small-pox vaccination. The virus contains the causative agent of the disease, whatever it may be. When introduced it causes the formation of antibodies, a process which as stated before, takes some time. Once formed, however, they are very stable, and an active immunity against small-pox may persist for years or even life.

The introduction of diphtheria antitoxin produces an example of passive immunity. Horses are inoculated with diphtheria toxin until they show a high degree of active immunity. In this condition their serum is rich in antibodies. This serum is removed from the animal, prepared and preserved in various ways, and used for passive immunization in actual cases of the disease in human beings. If we had to wait for active immunity in diphtheria, many patients would succumb, as the disease has a rapid course.

In a general way the production of passive immunity has been given the name serum therapy, while that of active immunity is called vaccine therapy.

The oldest established, as well as the

most dependable vaccine is of course that against small-pox. As the causative germ has not yet been isolated, material is used which we know to contain the germ in an attenuated form, that is, pus from a cow-pox pustule. In this case the virulence of the germ has been reduced by its pasage through the cow.

In the Pasteur treatment for rabies, which is also an active immunization, the same condition exists as in small-pox—we have not yet isolated the germ. So that in this disease it is also necessary to use material which we know to contain the germ, in this case the spinal cords of rabbits dead of rabies. But as the germ exists in this material in undiminished virulence, some method of attenuating it was necessary. This was found by Pasteur to consist in drying the cords for different lengths of time. In this way a series of vaccines of gradually increasing virulence is produced.

All other forms of active immunization used today are against diseases in which the germ has been isolated, and hence the methods available are much more exact. And yet none of them can compare in efficiency with the two first mentioned. It will be a long time before the vaccine therapy of other diseases assumes the satisfactory standard which exists in small-pox, and we may safely say in rabies.

In a general way, inoculations for this purpose are made by introducing cultures of the specifiic bacteria in increasing doses. These cultures may be alive but of reduced virulence, as in the anthrax vaciene, killed cultures, as in the majority of the so-called bacterins, or cultures from which the bacteria have been removed by filtration, leaving behind only their toxins and other products.

While the anthrax vaccine is more or less successful as used on animals, it has not been tried on the human race to any extent, hence its usefulness in that direction is still questionable. The various vaccines prepared against cholera, bubonic plague and typhoid have shown brilliant success at some times, and dismal failures at others, so that the item of reliability, which is so desirable, is certainly lacking.

Probably the greatest successes of active immunization or vaccine therapy with the exception, of course, of small-pox and rabies, have been against the suppurative diseases or infections by staphylococcus, streptococcus and gonococcus, by using dead bacteria.

The various preparations from the tubercle bacillus, the so-called tuberculins, are all in the nature of vaccines, and their tendency would be toward active immunity. Their value in this respect has not been clearly proven, but no doubt further researches will add to their efficiency. These preparations were taken up in detail in a previous article.

A preparation similar to the tuberculins is mallein, from the glanders bacillus. It occupies practically the same position as the tuberculins, its main usefulness being as a diagnostic, rather than a curative agent. The reaction which is used for diagnostic purposes in the two latter preparations, consists of a rise of temperature, with certain local manifestations. It is common to all vaccines, and is the first response of the system against the invasion, marking the first step in the formation of antibodies.

It has been practically impossible to secure any degree of immunity against the bacillus tuberculosis by the use of vaccines, in the form of the various tuberculins. The theory has been advanced that this bacillus gives off but few toxins during its life, hence the system has no provision for generating specific antibodies. There may be some connection between this assumed fact and the inpenetrable envelope which the bacillus possesses. It is this same envelope which gives it its acid-proof properties in staining. The fact re-

mains, however, that the tuberculins made of the crushed bacteria are little if any more efficient than those from which the bacteria have been removed by filtration.

The whole system of vaccine therapy needs to be put on a sounder basis. At present we are working more or less in the dark. The fact alone, that in some species of bacteria apparently the same effects are produced by using the living bacteria, or their dead bodies either whole or disintegrated, or merely the products of their growth in artificial media, tends to a lack of uniformity in the matter.

The attempt to regulate vaccine therapy by the opsonic index is likewise unsatisfactory. Leucocytes after removal from their normal environment cannot be expected to act the same as leucocytes while in the blood stream or tissue spaces. And bacteria taken from a culture tube do not show the same relation to phagocytosis, as the same species do in the body. It is useless to expect it, as conditions are different.

The same is true of serum therapy. With the exception of diphtheria antitoxin, the value of which is unquestioned, and tetanus antitoxin, which is only fairly useful, the numerous antisera on the market are too uncertain in their results to be of any value. And when to this uncertainty is added the danger of producing anaphylaxis by the introduction of an alien serum into the system, the matter becomes worse instead of better.

In comparing the relative merits of vaccine and serum therapy the following underlying principles must be emphasized. Where a disease is clearly a toxemia, that is, produced by soluble toxins given off by the living bacteria, the use of antisera is of unquestionable benefit. The results in diphtheria and tetanus prove this. When, however, we have to deal with a bacteremia, that is where the bacteria themselves invade the blood-stream, the use of antisera has not proven successful, but active immunization by vaccines has to some extent. The results so far obtained in anthrax, typhoid fever and bubonic plague would seem to justify this assumption.

But there is a class of bacterial infections in which we have neither a true toxemia nor a bacteremia. In other words the bacteria are localized, and do not invade the circulation, neither has the production of a soluble toxin been proven. These are the diseases which have given the least satisfactory results in either vaccine or serum therapy. They include tuberculosis, leprosy, pneumococus infections, syphilis and others. It is not possible at present to tell why this is so. Further researches will throw much light on the matter, no doubt.

It is a fact of some significance in this connection, that two of the oldest and unquestionably the most successful methods of producing active immunity, namely against small-pox and hydrophobia, both consist in the inoculation of not artificial culture products of any kind but disease products from the body. While this is necessary, owing to the fact that the germs are not yet isolated, there may be something lacking in the artificial cultures which is present in the natural products, such as vaccine virus and nerve-substance of animals dead of rabies. Else why the great success against small-pox as compared with artificially prepared vaccines. It would be interesting if such a thing were possible, to make analogous experiments in other diseases, using the exudates instead of artificial cultures.

In our next article we shall take up the various antibodies in detail.

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Notices of marriages, births and deaths will be inserted free. Please forward in time to reach the office, not later than the 15th of the month preceding month of publication.

DEPT. OF SURGERY

By John Dill Robertson, B. S., M. D.
Chicago, Ill.

THE DIFFERENTIAL DIAGNOSIS OF THE COLICS.

Yesterday colic was a simple thing, a belly-ache, a medical joke, a matter to be lightly passed over; today it is a tremendous surgical possibility. At times it spells death in red letters of warning. We have come to understand that any pain in the abdomen may assume startling proportions; that even a simple intestinal colic may result in intusseption from exaggerated peristalsis, or the condition which has initiated the intestinal catarrh may center in the appendix and result in an acute appendicitis. Therefore, colic is to be regarded from its first appearance with real apprehension until its true nature is determined and proper measures adopted for its relief.

In order to clarify the diagnosis of the various belly-pains the following points are of real clinical significance:

Appendiceal pain occurs suddenly; is severe and colicky in nature; is associated with nausea and vomiting and localized tenderness and muscular rigidity; and soon in the great majority of cases localizes itself in the right iliac region at and around McBurney's point. The pulse-rate is moderately increased at first, and in severe cases shows a gradnaly increase in frequency after the first twelve hours. The temperature rises moderately after two or three hours; an abrupt fall of temperature associated with a rapid pulse indicates gangrene or beginning peritonitis. Lenkocytosis is frenently present. A tumor cannot be felt until a later stage of the disease.

Gallstone colic likewise is characterized by suddenness of onset, but begins in the right hypo-gastrium and in the epigastrium—much higher than the appendiceal colic. It usually begins in the daytime during some exercise which dislodges the stone and starts it on its downward course. The pain radiates from the region of the gallbladder down to the umbilicus and up to the angle of the right scapula and right breast. It suddenly subsides as suddenly as it begins when the stone drops into the intestinal canal or back into the gallbladder. During the attack vomiting of a bile-stained fluid is common; and jaundice more or less intense usually follows the paroxysm. There is associated tenderness over the hepatic region and chills, fever and sweats are occasionally noted. The urine becomes smoky and dark-colored from the presence of the bilirubin. A tumor is generally to be felt in the region of the gall-bladder, but not always, and not infrequently the stone will be passed in the feces. Gall-stone colic occurs most commonly in women of advanced or middle age. The paroxysms or biliary colic may last only a few minutes or persist for a couple of hours or more.

Renal colic may occur on either side. It is due to the passage of a calculus from the renal pelvis to the urinary bladder. The pain is intense, lancinating and paroxysmal, beginning in the back over the kidney and radiating down the ureter to the testicle or labia and down the thigh. It causes retraction of the testicle, and is followed by a sensation of faintness and collapse. Vomiting often occurs at the beginning of the attack, and there may be an initial chill. The kidney is tender on palpation. Jaundice does not follow the paroxysm, but the stone may be passed in the urine if it does not lodge in the bladder. The urine contains blood during the attack and is scanty, but a cop-

ious flow follows this paroxysm, containing albumen, casts, pus and blood, but no bile-pigment. Renal colic may occur at any age but is most common in men. There is no tumor to be detected. The attack of colic lasts from an hour to three or five days and suddenly ceases.

Dietl's crises are sudden severe attacks of abdominal pain due to partial twisting of a floating kidney upon its pedicle (the ureter). The pain is sudden in the region of the kidney or ureter, and at times is periodic in nature. It radiates down the ureter and may be severe enough to induce collapse. Nau-

The following diagnostic table presents the various colics in concise form:

HEPATIC (Gallstone) COLIC	RENAL COLIC	DIETS CRISES
PAIN, sudden onset; begins in right hypogastrium and epigastrium; usually in daytime during exercise; radiates to umbilicus and right scapula; subsides suddenly.	PAIN, intense, lancinating, paroxysmal, begins in back over kidney; radiates down ureter to testicle or labia, and down thigh; causes retraction of testicle; followed by faintness and collapse.	PAIN, sudden in the region of the kidney or ureter, sometimes periodic; radiates down ureter, at times there is collapse.
VOMITING common, of bilestained fluid.	Often VOMITING at beginning of attack.	Nausea and vomiting always present.
JAUNDICE always follows the paroxysm.	No jaundice.	No jaundice.
TENDERNESS over liver area.	Kidney tender on palpation.	Kidney displaced, tender, swollen (hydronephrosis) slight abdominal rigidity.
AGE—Most common in middle and advanced age and in women.	AGE—Develops at any age. Most common in men.	AGE—Most common in multiparous women with visceroptosis.
CHILLS, fever, sweats occasionally present.	Often initial chill.	No fever or chills as a rule. No leukocytosis.
TUMOR may be felt in region of gall-bladder.	No tumor.	Floating kidney felt in abnormal position.
STONE frequently passed in the feces.	Stone is passed in urine or lodges in bladder.	No stone.
URINE dark-colored, smoky; contains bilirubin.	URINE contains blood DURING attack; AFTER attack copious flow of urine with albumen, casts pus and a little blood; vesical irritation; frequency of micturition with stranguary. Urine contains crystals but free from bile.	Oliguria during attack. Increased sudden flow of urine after attack. Urine contains blood and pus (occasional) after CRISES; during attack highly colored; charged with uric acid and oxalates.
Attack lasts for a few minutes to a couple of hours.	Attack lasts from an hour to 3-5 days; sudden subsidence.	Attacks short and periodically or at irregular intervals.

LEAD (Painters') COLIC	ENTERALGIA, SIMPLE COLIC	APPENDICEAL COLIC
PAIN not sharp and cutting; in region of umbilicus; sensation as if intestines were knotted.	PAIN sharp, lancinating periodic; radiates from umbilical region; relieved by pressure.	PAIN, sudden onset; severe colicky; localized in right iliac region at or near McBurney's point.
No vomiting; abdomen retracted; chronic constipation.	Nausea occasional, but vomiting rare; visible peristalsis with borborygmi and diarrhea. Abdomen tympanitic or retracted.	Nausea and vomiting present.
No jaundice.	No jaundice.	No jaundice.
No special area of tenderness.	No tenderness.	Tenderness localized over McBurney's point.
AGE—Most common in males of early and middle adult age.	Any age.	AGE—Most common in young adults or in period of the adolescence. May occur at any age.
Subnormal temperature; marked anemia (SATURNINE CACHEXIA)	Pulse slow and tense. No fever.	Pulse moderately increased in frequency. Slight rise of temperature.
No tumor.	No tumor.	No tumor till later stage of disease.
No stone.	No stone.	No stone.
Urine scanty, albuminous; contains lead-salts.	Urine normal.	Urine normal.
Paroxysm lasts for several hours. BLUE LINE on gum, wrist drop and other palsies.	Attack lasts for a few minutes, gradually subsides.	Attacks last a few hours to several days.

sea and vomiting are always present, but there is no jaundice, and chills and fever are generally absent. There is no leukocytosis. A floating kidney may be felt in an abnormal position, and tender to the touch. There is slight abdominal rigidity. The kidney may be enlarged from the damning back of the urine (hydronephrosis). During the attack there is oliguria, but as the kidney untwists there will occur a sudden flow of urine containing blood and pus and highly charged with uric acid and oxalates. The symptoms subside suddenly. This condition is most common in multiparous women suffering from visceroptosis. The paroxysms are of short duration occurring periodically or at irregular intervals.

Enteralgia, or simple colic, is characterized by sharp lancinating periodic paroxysms of pain radiating from the region of the umbilicus and relieved by pressure. It may be accompanied by nausea, but vomiting is rare. It is associated with visible peristalsis, borborygmi and diarrhea. The abdomen may be retracted or tympanitic. There is no jaundice, neither are tumor and tenderness present. There is absence of fever and the pulse is slow and tense. The urine is normal. Enteralgia may occur at any age, and the attack lasts for a few minutes only, gradually subsiding.

Lead or painter's colic is characterized by attacks of pain that is neither sharp nor cutting, which is located in the region of the umbilicus and gives a sensation as if the intestines were knotted. There is no vomiting, the abdomen is contracted, and there is chronic constipation. There is no special area of tenderness. The temperature is subnormal, and there is marked anemia (saturnine cachexia). The urine is scanty and albuminous, and contains lead-salts. The characteristic blue line will be found on the gums, and wrist-drop and other palsies may be present. The paroxysm last for several hours. Lead-colic is most common in males of early adult life.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D., M. E., Lima, Ohio

GENERAL CONSTITUTIONAL ELECTRIC TREATMENTS.

By Wm. F. Howe, M. D.

In many diseases, among which we might name rheumatism, paralysis, neurasthenia, etc., as being more frequently met with, it is necessary to give a treatment that will affect the entire system.

General treatment may be given by general faradization, general galvanization and central galvanization.

General faradization, as its name indicates, is a general use of the faradic current. This treatment has a direct influence upon the entire system and by reflex action may indirectly have a therapeutic effect on some particular organ or part which may be diseased. General faradization is indicated wherever a general constitutional tonic influence is called for, in conditions of depressed vitality, in tedious periods of convalescence, wherever there is poor circulation, defective assimilation and nearly all nervous conditions. One pole is usually placed at the coccyx or feet (preferably the latter), the other passed over the entire surface of the body.

The clothing of the patient must be so arranged that the electrode can be passed over every part of the body. Many operators have the patient remove all clothing and substitute a light robe made for the purpose, open either at the back or on the sides so the active pole can without delay or inconvenience, be used wherever it is desired.

Others loosen all clothing around the waist and arrange to pass a small electrode over the surface, adjust the clothing separately for each part. In this method there may be less embarrassment to the patient, but the treatment cannot be given as successfully, the skin cannot be moistened as thoroughly, hence the greater resistance to the passage of the current and the patients' clothing is invariably soiled and wet by the moistened electrode.

These treatments are given with the patient seated upon a stool so the operator can give a thorough treatment and not be impeded by the arm or back of a chair. The general treatments are also given with the patient in a recumbent position, all clothing removed and their person protected by a sheet or blanket. This is a very easy and efficient manner of making general applications.

In many cases these treatments may be given largely by the patients themselves as far as the manipulations of the electrodes is concerned. If the patient is in an erect position during treatment one wire from the battery may be attached to a zinc or copper plate upon which the feet rest; or the feet may be immersed in a bowl of water and one pole placed in the water.

In the former method the zinc and copper is frequently unpleasantly cold to the patient, and as the skin upon the soles of the feet is so thick as to afford great resistance it does not make as good a conductor as water. The water is warmed, a little salt added to assist in overcoming the resistance of the skin, and as the water comes in contact with the sides and upper surface of the feet as well as the soles, it makes a much better mode of application.

If the treatments are given while the patient is in a recumbent position the zinc or copper plate may be used at the feet or sponge or cotton covered electrodes preferably attached to the ankles instead of the soles on account of less resistance.

The question, "Which pole shall be passed over the body?" is the one first asked by nearly every physician and by them considered the all-important point.

The question of polarity is not of as great importance in faradization as in galvanization.

These points, however, may be borne in mind:

If in the treatment of nervous conditions or whenever it is desired to relieve pain or a sedative effect is desired the negative pole should be at the feet or coccyx and the positive pole applied over the seat of pain and passed all over the body.

If an irritating or stimulating effect is desired, as for instance in amenorrhea or paralysis, place the positive pole at the feet or coccyx and pass the negative over the seat of disease and all over the body. In other words the positive pole should be applied to the diseased part where pain is present or active irritation exists; and the negative pole should be used to influence morbid chronic processes. The primary coil would be the preferable one to use where it is desired to obtain relief through muscular contractions, and the secondary coil where it is desired to reach a deeply-seated trouble or treat the nervous system. The peripheral nerves and capillary circulation could be affected to a greater degree by the use of the primary coil; and the spinal cord, the sympathetic nervous system and the circulation and nutrition of the internal organs or deeply-seated structures could be influenced to a greater extent and with better results if the secondary coil be used.

Rapid vibrations are preferable in nervous diseases and in fact in nearly all conditions except where a mechanical effect is desired and violent muscular contractions are to be produced.

In this even, slow interruptions would be preferable.

The strength should be regulated by the sensations of the patient. Never carry the treatment to the point of pain. If the patient says it is unpleasantly strong, it should be reduced.

It is best to begin the treatment of general faradization with the positive pole at the base of the brain, pass it slowly down the spinal cord for three to five minutes, then pass it over the chest and hold it over the epigastrium for a few moments to influence the coeliac-plexus then over the abdomen to stimulate intestinal action and the abdominal muscles, then upon the thighs, arms, and legs, varying the strength of the current to suit the resistance afforded by the different parts.

In giving general faradization, it is important that treatment should not be neglected at the back of the head, down the neck, the upper portion of the spinal column and over the cilio-spinal center. The most important nerves of the body can be treated here.

In giving treatments to the head it is frequently advisable to pass the electrode through the operators hand so it will not be felt as plainly by the patient as though the ordinary electrode had been used over the sensitive nerves of the forehead and face. As the hair is practically a non-conductor, it must be thoroughly moistened or a wire brush electrode used.

The usual length of treatment is from 5 to 20 minutes. They should be given daily or every other day—very seldom more than once a day.

An intelligent physician would understand that in the use of these treatments for chorea, neurasthenia, hysteria, etc., particular attention should be paid to the treatment of the nervous system, while in a case of rheumatism we would direct our attention to a greater extent to the muscles affected.

The effects of general faradization are:

To act as a sedative upon the nervous system, allaying irritability and pain. Sleep is facilitated.

To temporarily act as a stimulant.

To improve nutrition. This may be local or general.

To promote the process of waste and repair.

During and after a course of general faradization the patient will feel exhilarated and stimulated. Tone has been given to the entire system: pain has been allayed: all feelings of weariness, lassitude and lameness removed.

The temperature has been equalized, the circulation improved, an increased warmth given to the surface and extermities, digestion improved and appetite increased and bowels regulated.

The muscles develop in size and hardness. The body, responding to increased appetite, improved digestion, and circulation, increases in weight.

Nervousness is allayed, sleep is facilitated, the brain invigorated, and for a considerable time after the treatments have been discontinued.

General galvaninzation or the general use of the galvanic mode is given in precisely the same manner as general faradization.

Many of the directions given for the use of the poles should be the same.

The differential effect of the two poles is much more marked in the galvanic mode than in the faradic, so that rules laid down for the use of the negative pole where a stimulating or irritating effect is desired should be particularly observed.

Some authorities attach more importance to general faradization than general galvanization, while with the others, this is reversed. Either treatment would be of benefit in the same conditions.

Galvanization has the advantage that a stronger dose can be used, that it has greater penetrating power and will

reach a deeply seated trouble, where in some cases the faradic mode would be ineffective, and it has a chemical effect which the faradic mode does not possess, to produce muscular contractions through general muscular troubles and general galvanization in nervous diseases. The sedative effect is much more marked in the latter treatment than in general faradization, as is also the effect upon the absorbents.

The general nutrition of the entire system can probably be more profoundly affected through general galvanization than by general faradization. Either treatment is successful in influencing the circulation.

In giving general galvanization, care should be taken that the treatment is not suddenly interrupted while the electrodes are in position, as this causes a shock to the nerves which may aggravate the trouble. The treatment cannot be properly given without the use of a rheostat and milliamperemeter.

Central galvanization—By this term we mean a treatment with the galvanic mode which will bring the entire central nervous system—the brain, sympathetic and spinal cord—under the direct influence of the treatment.

This treatment may be given independently of any other, or co-jointly with general faradization or galvanization, and is applied by having one pole, usually the negative, at the epigastrium and the other at the vertex or passed over the forehead, down the back of the neck and down the entire length of the spine. Having the negative pole at the epigastrium and the positive pole at the base of the brain and down the sides of the neck is the best method of stimulating the sympathetic, pneumogastric and phrenic nerves. Over the forehead not more than two to five milliamperes should be used, while upon the vertex and down the spinal column 10 to 15 milliampere is the usual strength of dose, although this may be increased to 25 or 35 in many cases. Treatments to the head should not be continued more than two or three minutes at a time.

Particular care should be taken in treating the head that there is not a sudden interruption of the mode. The electrodes at the epigastrium should cover considerable surface to prevent any pain or burning sensation.

The length of the treatment is from 12 to 15 minutes.

Central galvanization would be the indicated treatment wherever there is a condition of exhaustion or irritability of the nervous system. It is usually a good idea to combine central galvanization with general galvanization or general faradization. In nearly any patient who would come to us suffering from hysteria, neurasthenia, chorea, epilepsy or analogous conditions where we desire to use central galvanization we would also find in one case defective assimilation, in another rheumatism and in others constipation, muscular atrophy, the results of lagrippe, various skin diseases, and so on ad infinitum, and these outlying symptoms or conditions could be removed or improved by general treatment, while the central treatment alone would effect little if any thing.

The central treatment and the general treatment may be given on alternate days, or, what is a better plan, give the central galvanization ten minutes and then general faradization ten minutes more, during the same sitting.

Central galvanization and general faradization have in the effect of the treatment many things in common. With either treatment a feeling of exhilaration and warmth of the body is produced. A tonic effect, improvement in sleep, increased appetite, improved digestion, regularity of the bowels and equalized circulation may be secured with either treatment, as can also increased size and firmness of the muscles.

Either of these treatments, both by

direct effect and reflex action, will act as a tonic to the brain and increase the capacity for brain work. General faradization, however, acts more markedly upon the muscular system and central galvanization upon the nervous system.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

ON GETTING UP EARLY AFTER LABOR.

Velits, of Pozony, Hungary, allowed 308 women out of 496 in his lying-in institution, to get out of bed early. The time varied from the first to the seventh day. At first he only allowed women after normal labors to leave their beds thus early, but later those who had undergone operative deliveries, such as forceps, version, craniotomy and repair of the perineum. In all cases a good involution of the genitalia was observed. Bad results, like malpositions, flexions, thromboses and the like never followed. Also the catheter was seldom required. The perineal suture wounds healed undisturbed by the early rising. Therefore the author recommends early getting up for puerperal patients, especially in hospital practice. (Gyogynazat, No. 17, 1910).

Scherer, of Budapest, Hungary, observed the influence of early getting up in 200 cases. Severe wounds, operations and fever during labor were considered contra-indications. The women got out of bed from the first to the sixth day after delivery and were discharged from the hospital on the tenth. Pulse and temperature were not influenced. The strength of the women was better than by the old method; the functions of the bowels and bladder were undisturbed; the appetite was heartier; the average post partum loss of weight was somewhat less. (Orvosi Hetilap, No. 47, 1910.)

NUTRITION OF NURSING WOMEN.

The fact has long been known that the milk secretion is not necessarily disturbed by defective nutrition of the mother. Conditions during the siege of Paris and during the cotton workers strike in England have shown that, in spite of the greatest want among the people, the mortality among the nurslings was reduced. The probable reason is that, in the one case on account of the want of cow's milk and in the other on account of the freedom from factory work, the mothers nursed their babies themselves.

On the other hand, when one considers that the production of one liter of milk represents a value of 700 calories, then must one regard the nutrition of the mother as of special importance. Especially in institutions, where one woman often nurses more than one child is it to be considered whether the loss of energy due to the nursing is not greater than can be expressed in the given amount of calories and whether consequently diminished maternal nutrition may not result. (W. Birt, in Muenchener medizinische Wochenschrift, 1911.)

OPERATIVE TREATMENT OF CANCER OF THE UTERUS.

During the twelve years 1899 to 1910 inclusive, there entered the clinic in Wurzburg a total of 393 cases of cancer of the neck of the uterus, of which 205 cases were radically operable. Seven women refused operation. In the remaining 198 cases the complete adbominal removal of the uterus and appendages with extensive dissection of the pelvic lymphatic glands was done 105 times; vaginal hysterectomy with removal of the parametrial and paravaginal connective tissue was done 91 times; high amputation of the cervix

was done twice. These operations performed before 1907 are eligible for examination as to recurrence according to the dictum of Winter who considers that recurrence may be taken as not to have occurred after four years. In this series come 50 cases of vaginal hysterectomy with 20 instances of non-recurrence, that is, 40%. 32 cases of the abdominal operation came to examination as to recurrence with ten instances of non-recurrence, that is, 31 + %. Hofmeier recommends for most cases the abdominal operation because of the better mortality percentage and on account of the greater opportunity of seeing what is being done and of stopping hemorrhage in the abdominal over the vaginal operation. He would reserve the vaginal hysterectomy for the relatively early cases of cancer of the portio vaginalis, for women of 60 years and over and in cases where the abdominal walls are very fat. (Hofmeier, in Zeitschrift fur Geburtshilfe and Gynakologie, vol. LXIX, part 2.)

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

The question of intervention when the menses have not appeared is always a delicate one, to be considered carefully by the physician. The moral aspect of the case is best settled by the test of publicity; if you are unwilling to have the case published in the newspapers, do not touch it.

In such cases remember the usual legal maxim is reversed—all women are liars until proven innocent. For conjecturing plausible excuses to induce the unwary doctor to pass a sound into a pregant uterus, the women are by nature, adepts. Maid, wife or widow, are unnatural distinctions here—they are all simply women, and as such liable to pregnancy.

Byron, who had abundant experience said:—"She is a woman, therefore to be won;" also:—"Man's love is of his life a thing apart; 'tis woman's whole existence." When the flow has stopped from taking cold, with fever give aconitine and cicutine hydrobromide, a granule each every hour till fever falls and pulse softens.

Aid with a hot mustard footbath, and a hot water bag where it will do most good. Flush the bowels with calomel and salines, or castor oil. In similar cases where less intervention is needed and there is little or no fever, give anemonin gr. 1-128 every half hour. Small doses are better than large ones if frequently repeated till effect.

When the flow has dwindled and stopped from anemia be wary about establishing it until you have restored the needed blood. Give iron arsenate gr. 1-64 every two hours while awake, well diluted with generous diet, and a glass of red wine with each meal, for a month.

The treatment of the anemia generally requires treatment of its causative conditions as well—be patient and work scientifically, resisting importunities to stimulate menstruation directly. For functional inactivity there are a host of remedies, and each has his favorite. Myrrh is a good adjuvant to iron, as in the official Mistura Ferri Comp.

Potassium permanganate has the remarkable power of promoting blood discharges, and often succeeds here. If the patient is disposed to phthisis it may induce pulmonary hemorrhages instead —perhaps vicarious. Mercury biniodide is useful for the fat and flabby anemics, with scanty flow and absence of sexual feeling; gr. 3-64 before meals for a month only, reducing if the gums indicate over-action.

Arsenic chloride is a good alternant with the preceding; before meals, reducing if the eyelids itch. Sanguinarine is the best remedy for the thin, anemic, frigid type, gr. 1-16 after meals and at bedtime, for a month at a time.

Senecin is Murrell's choice as the best of all this class. I have never succeeded with it, but others say that was because I used too large doses; they succeeded by giving gr. 1-64 four times a day. Never give any drug more than a month; alternate sanguinarine, senecin and one of the metallic remedies monthly until the need is past. The older remedies, savine, rue, tansy and pennyroyal, are dangerous in large doses, ineffective in small ones; causing nephritis by irritating the kidneys; better cut them out.

A Wisconsin doctor recommended the summer savory, satureja hortensis, a tea made from the fresh plant; it is like the savine group. Hysteric cases do well on the Valerianates of quinine, iron and zinc, gr. 1-6 each before meals for a week; or each for a week alternately.

Some cases need a bracer, but not a very powerful one; brucine gr. 1-64 before meals, in a little water, does admirably. Chlorotic, constipated cases do well on aloin gr. 1-16, and iron arsenate, same dose, before each meal for a month. Zinc phosphide sometimes comes in well for cases demanding a strong stimulation of the cerebrospinal centers to arouse the vital forces. Give gr. 1-6 before meals for one week only.

For plethoric forms we have an excellent remedy in caulophyllin gr. j before meals for a month; or alternated weekly with antimony arsenate gr. 1-64. Some plethorics do better on veratrine, gr. 1-32 before each meal, or better regulated by the pulse tension. This is especially useful here because it stimulates the spinal centers.

Arthritics require colchicine, best given gr. 1-64 and 1-16 in a single dose at bedtime, stopped when it begins to act on the bowels or nauseates. Apiol comes in the savine class, and there is no better; it does not discriminate between pregnancy and other stoppages as asserted. Berberine is useful for the fat flabbies; a grain before each meal for a month, then sanguinarine for another month.

Try and rid the patient of the fallacy that amenorrhoea causes phthisis, and teach her the contrary. Explain the difference between treating amenorrhoea and attacking its cause. Don't waste time or compromise yourself temporizing with a pregnant woman who asks for a crime, but send her packing.

Don't imagine any woman will allow you to kill her babe and keep it secret; women are not built that way. You may lose practice by refusing to do abortion; then lose it and if you cannot sustain yourself as an honest physician take up some other work.

One woman begged for an abortion; she got it somewhere, and six months later she said she could not sleep, but passed the nights weeping for her lost child. Another had an abortion in early girlhood; later married, had no children, and bewailed her empty home.

Still another found herself pregnant by her promised fiance; he ran off, and she bore her child and raised it; married later with the full knowledge of her husband, who adopted the boy and lived to find him a blessing. Women who have abortions easily fall again; those who have borne their child and faced the world have turned out well, and been honored.

Forty years experience enables me to advise the unmarried woman to bear her child and face the world, as the only chance for her own well-being, happiness, and honor. You can no more reason with such a woman than you can reason with the bedpost—she is wild with fright.

Call a family council and take the matter into your own hands; do the ordering yourself. Send the girl to a city and have her cared for by a pri-

vate nurse, or in a sanitarium. Don't send her to a hospital—every woman will give herself away, no matter how valid the reasons for keeping her secret.

Three months in a creche will surely transform an unfortunate, deceived girl into an abandoned woman. The others she meets there will accomplish her debasement. There are in Chicago places conducted by women physicians of the highest standing, morally and professionally, where these girls are taken and cared for with consideration of their future. The patient is safe there as to health, morals and secrecy.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
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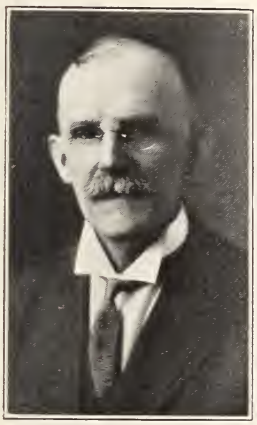
SCARLET FEVER.



Scarlatina is justly one of the most dreaded of all the acute diseases with which children are afflicted. The victims of this disease are very often permanently crippled, if they recover from the attack, with their lives spared, but their usefulness and enjoyment of life impaired materially, or totally destroyed. Scarlet fever is a preventable disease, yet in the city of Chicago alone, there were 476 deaths due to its ravages in 1911 and 3,833 in the last ten years in that city. In 1909 in the registration area, comprising about 55% of the entire continental U. S., there were 5,781 deaths due to the acute stages of scarlet fever, 4,906 to pertussis, 4,850 to measles, 10,358 to croup and diphtheria. In the State of Wisconsin in 1909, 352, in 1910, 304 due to scarlatina; in 1909, 411, in 1910, 429 due to diphtheria; in 1909, 197, in 1910, 200 due to pertussis; in 1909, 120, in 1910, 158 due to meales.

This large mortality in the acute disease represents but a small part of the real death rate. There is a distinct advantage in the fact that the public are very much afraid of it and consent to quarantine regulations respecting it, as they do regarding diphtheria, very readily as a rule, which only makes their attitude in regard to the quarantining of the other diseases mentioned in the statistical table more difficult to understand. Mild cases are a greater menace to the community than more severe ones, because the contagion is the same and the parents may be tempted to get along without calling a doctor and thus innocently be a means of spreading the disease throughout the neighborhood. There is some difficulty in diagnosing the disease differentially from Rothelyn and Erythematous eruptions of various kinds, such as acute dermatitis (exfoliative), measles, septicemia diphtheria and drug rashes when first seen, but a conservative attitude for a short time, will enable one to be quite positive, which is very important.

The clinical picture of the characteristic eruption, sore throat, high fever and typical "strawberry tongue" will usually suffice for the making of a diagnosis. Cool bathing and the administration of aconite in small doses, frequently repeated, to reduce the 104 to 105 degrees of temperature two or three degrees with plenty of cold water in small quantities at a time to drink, together with the use of H_2O_2 in half strength as a gargle or used in an atomizer, or other antiseptic mixtures as may be preferred, with great care as to the hygienic attention given, the

patient will usually reach the stage of convalescence safely. Here is where great care is required that the desquamation period be so carefully guarded that the skin is not chilled, thus driving the circulation away from the surface and still further destroying its normal function and by the increased work demanded of the other excretory organs, especially the kidneys, cause them to become inflamed and lead to one of the most serious and frequent complications which must be carefully prescribed for if a successful result is obtained. To establish free diaphoresis is very desirable and a free use of water to drink is required. Because of the fact that the heart is involved in most of these cases, digitalis is a good remedy and we prefer it in an infusion of the leaves. The bowels must be kept active. Glandular enlargements are common. Phytolacca is a good remedy for that condition. The ears should be watched too. An inunction of animal oil of some kind is good for the itching, during the process of desquamation and keeps the skin soft and more active. A milk diet, during convalescence as well as in the acute stages is desirable to help prevent nephritis. Iron is a good tonic, possibly combined with the hypophosphites and strychnia if needed, during convalescence. This latter is the most important stage of the disease. To neglect strict quarantine is crimnal and ought to be punished accordingly.

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The choice and the use of antiseptic and alterative remedies internally or externally affords a field for almost unlimited discussion, respecting their value and their mode of action. While some practitioners are very skeptical concerning remedies which are claimed to have such action, others are equally confident of their efficacy.

It is not our purpose to try to harmonize these conflicting ideas, but to recommend for trial a remedy, that a large number of observers have endorsed as the remedy par excellence, to be used internally or externally as an antiseptic.

We have used Echinacea Augustifolia for many years and in many kinds of infection and we are more and more certain of its value in acute septicaemia and all other kinds of internal sepsis and also to combat external infection as time passes.

Its efficiency as a remedy is fully and definitely demonstrated, by using it in cases of venomous bites and stings. Doses of 15 to 60 drops every 15 to 30 minutes, with the application of bandages saturated with the remedy, in full strength at first and later in one-fourth strength can be given and used with great confidence. It quickly allays pain and the discomfort of the patient as well as the fears of the friends and demonstrates to them your apparent ability to cope with unusual ailments promptly and satisfactorily. Dr. Chadwick of Iola, Kansas, reports a case, where a snake charmer was bitten at Baxter Springs in that state, by one of the large venomous snakes. He was given large doses of Echinacea and his life was saved, though he lost one arm from the effects of the poison. It may be noted that the Sioux Indians scrape the fresh root and give it freely as an andidote to the poison of snake bites. We have seen two cases of Whitlow aborted, after they were quite well started and had belome very painful, the people having each had one, but a short time before, that had to be incised, they were very familiar with the symptoms and had no idea that any other termination could be expected, than in the others. Constant wet dressings of full strength for 24 hours reduced the swelling and lessened the inflammation and dissipated the soreness and tendedness. Two more days of the same treatment, during working hours restored a normal condition and

no further trouble was experienced.

Properly diluted, (1 to 4, or 1 to 8), it is useful as an application to fresh wounds. In full strength to bed sores or as can be borne and to indolent ulcers and combined with phytolacca in equal parts, to glandular enlargements and some use it for these conditions without combining it. Internally we have used it with satisfaction in cases of typhoid fever, puerperal and other cases of septicaemia, pyaemia and abscess formations, boils, carbuncles and erysipelas. Those who have most carefully experimented with it's use are particular to secure a preparation of the medicine made from the roots of plants growing in the middle or far West. An average dose internally is from two to fifteen drops of a preparation representing a grain of the drug to the drop.

HOME AND OFFICE

W. H. TUCKER, M. D.
Eldarado, Ohio

I would advise doctors to invest their earnings in small properties in their own town and rent them or sell at an advantage, if they are run down they can be repaired by some one who owes them a bill. Thus you get the bill and have a property repaired ready to rent or for sale. If you cannot get a settlement take a note or if the people are "hard up" and need a little money loan them the amount and take a mortgage on their property and you hold the family and get a settlement.

Invest your money at home and watch it grow into more money. In your spare hours have something to do at home, always be too busy to loaf down town. Send statements every three months, if in the city every month. Make the dead beat pay and they will become your friends again and pay their bills. Keep after them until you get it. If you have to do so sue them, most of them will pay then, if not file the judgment against their property. It will draw interest and some day you will get it. Doctors die poor because they are poor business men.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
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CHRONIC DACRYOCYSTITIS.

Chronic dacryocystitis is one of the pathological conditions of the eye which is often very difficult to cure. In spite of the best of treatment by the best of ophthalmologists, this condition sometimes refuses to yield.

Dr. J. L. Thompson of Indianapolis, at the 1910 meeting of the American Medical Association said: "I have operated on the ducts for forty years. * * * Those of you who have not practiced a long time will find that you will meet with more poor success in the treatment of lacrymal duct troubles than in almost anything else you have to deal with."

At the last meeting of the British Medical Association, Dr. W. B. Inglis Pollock presented an excellent paper on this subject, describing a treatment which the general practitioner can easily use. The following is from the paper as published in the British Medical Journal:

Chronic dacryocystitis, or inflammation of the lacrymal sac, is one of the less important diseases which the ophthalmic surgeon requires to treat. It is not very common, but its incidence appears equal in the different classes of society. Lacrymation (also called epiphora and stillicidium) is the most frequent symptom of which patients complain. It is due to an excessive secretion of the tears.

It was formerly believed that the tears were constantly being secreted, and that the epiphora was due to an overflow on account of the lacrymal passages having become obstructed. The theory has been laid aside mainly on account of the results of modern operative work. It is now well known that the lacrymation ceases in these cases after the successful excision of the lacrymal sac, although such an operation obliterates the lacrymal canal at one part of its course, and if the tears were still being secreted in excess, the epiphora would persist. Should a portion of the septic sac be left the lacrymation continues. It is therefore evident that the lacrymal gland either become atrophied or that the amount of fluid secreted under normal circumstances is taken up by the conjunctiva without passing through the lacrymal canal. The former proposition, which would presuppose that the atrophy of the lacrymal gland follows excison of the sac, has already been suggested; but Kninders, in a careful comparison of the glands of both sides, could find neither a difference in weight nor a deviation from the normal in microscopical sections on the side of the operation. Seydewitz has, on the other hand, confirmed earlier workers in finding that atrophy occurs if the excretory ducts of the gland are divided. The lacrymation is therefore secondary to the toxic focus near the conjunctiva, and disappears when it is removed. It is of interest to note that considerable proof has now been advanced to show that the nerve to the lacrymal gland runs for most of its course in the seventh cranial nerve, and joins the fifth later. It is very probable that the moisture of the conjunctiva is maintained by the secretion of the numerous goblet cells and small glands contained in it.

PATHOLOGY.

While pathologist to the Glasgow Eye Infirmary I had a number of opportunities of examining the lacryma'

sac and duct obtained from the operation of excision of the sac. The following changes were noted: The epithelium, which occasionally increased to two or three layers, was frequently absent; the subepithelial adenoid layer was greatly swollen and thrown into folds by a dense cellular infiltration, consisting of large numbers of small round cells, and young connective tissue cells. In some cases the infiltration was frankly purulent, the polymorphs being in great excess. In other cases the changes were more characteristic of granulation tissue. There was also a thickening of the wall, with a small round-celled infiltration, which is sometimes seen passing into the new-formed tissue, giving rise ultimately to the fibrous strictures, but these are not often observed in the pathological examination. Polypus was not observed in any of the cases, although the folds into which the mucosa was thrown occasionally gave the deceptive appearance of polypus formation. Trachoma and follicles, described by many German authors, were not seen. Tuberculous disease was present in a few cases.

BACTERIOLOGY.

The pneumococcus was found in a large number of the cases of chronic dacryocystitis. The streptococcus has not been so frequent, although in the acute pericystitis it was almost always present. The close association of the pneumococcus with dacryocystitis supports the view that it is generally secondary to nasal or accessory sinus disease.

PROGNOSIS.

A septic focus in the lacrymal sac, if left untreated, is always a source of danger to the individual. Locally it may give rise to a more purulent pericystitis, with the possibility of lacrymal fistula occurring. Conjunctivitis may occur; but the much more serious ulcer of the cornea with hypopyon is closely associated with chronic dacryocystitis. Various writers have, therefore, urged that the sac should be excised when found diseased in workmen who are liable to "fires" and other injuries of the cornea.

Orbital periostitis and cellulitis with abscess formation are occasional and dangerous sequelae. In a patient whom I saw in private with Dr. R. N. Dunlop, the exophthalmos reached 8 to 10 mm. The case is intresting as it occurred on the fifth day after parturition, which was normal and ran a perfectly normal course. When the abscess came to the surface and was incised the eyeball returned to its normal position. Atrophy of the optic nerve may follow, but it did not occur in this case. Apart from these considerations patients are often very much troubled with the lacrymation, and seek advice for it without experiencing other symptoms.

TREATMENT.

It was under the influence of the old obstruction theory that so many attempts have been made to dilate and keep the constricted lacrymal canal permanently open, or to form a new channel for the tears. There was a certain degree of proof for these views in that a stricture may be found in a large number of cases. It is probable, however, that, apart from congenital narrowing, stricture of the lacrymal canal is always secondary.

Constriction, or obliteration of the canaliculus, is stated by Fuchs to be due most frequently to injury by sounding. On the other hand, strictures of the nasal duct are mostly secondary to nasal disease. This occurs directly in ozena, the primarily atrophic form of rhinitis, where the cicatricial process closes the lower opening of the nasal duct. Chronic dacryocystitis arises most commonly from chronic inflammation of the nasal mucosa by continuity of structure. The vascular engorgement of the vessels surrounding the duct, which accompanies the dacryocystitis, compresses it, since both are

enclosed in the rigid bone canal. Fibrous strictures develop later, as was shown in the pathological summary. It is thus seen that almost all strictures of the lacrymal passages are secondary and that the inflammatory process is the primary affection.

The early attempts to form a new channel for the tears from the eye to the nose now appear crude, if not even barbarous, to modern views. Among the processes employed at the commencement of the eighteenth century were the boring of holes through to the nasal cavity by steel instruments or by red-hot irons.

That these attempts have not been altogether given up is shown by the new operation of dacryocystorhinostomy, devised by A. Toti of Florence; in which after excising the lacrymal sac, an equally large opening is made in the lacrymal bone and the nasal mucoa. It is frequently necessary so it is said, to remove the anterior extremity of the middle turbinal bone, either before or during the operation. A plug of iodoform gauze prevents union taking place.

As early as the beginning of the eighteenth century various forms of hollow tubes and styles were employed. They have been gradually modified until the forms were reached that are familiar to every one.

It is difficult to say when probes were first used, but Anel appears to have been the first to use fine probes in association with his lacrymal syringe. For a time Bowman's probes were considered large enough; but Theobald uses very much larger probes, and Lewis has introduced a probe for rapid dilation, which is said to lead to destruction of the bone in the dried skull.

When it is recognized that lacrymation accompanying dacryocystitis is secondary to a septic focus, it is at once seen that the treatment must be directed to the removal of that centre of irritation. It is therefore easily understood why all attempts to dilate the lacrymal canal or form a new channel without treating the inflammatory reaction have so often been unsuccessful. It was in 1712 that Anel first introduced the lacrymal syringe. Various silver salts and lotions have been used. I have seen a patient who had been treated with protargol suffer a severe argyrosis extending for a considerable distance from the nose and along the inferior eyelid.

My own method is to use saline or simply boiled water, cooled to tepid. It is well to dilate the canaliculus with Nettleship's dilator, followed by Bowman's No. 3 probe if there is any difficulty with the introduction of the syringe. It is quite unnecessary to employ larger probes, and finer are more liable to produce a false passage. When the case is seen early, I have found three or four repetitions of the lavage at intervals of a week sufficient to cure the condition. It should be repated once or twice at longer intervals. There seems to be a great difference between hospital and private patients in this respect, or it may be that the former are rarely seen as early as the others, because it is much more difficult to obtain satisfactory results with them.

Irrigation should be persevered with for, say, three months, but if the condition is not relieved at the end of that period the lacrymal sac should be excised. The operation is rendered more difficult by the troublesome haemorrhage than the writer of the editorial which recently appeared in the British Medical Journal would allow. The efficient specula introduced by Stephenson and by Harmon, are, however, of great assistance in controlling the bleeding, and either should be used. The cicatrix left after the operation disappears rapidly, and the cosmetic result is very much superior to the styles which are sometimes praised. Lacrymation rarely persists after the operation.

MISCELLANEOUS

TOXEEMIA AND THE PROTECTIVE PROCESSES IN THE CHEMICAL LABORATORY OF THE BODY, WITH SOME THERAPEUTIC SUGGESTIONS.

By Frank F. Casseday, Ph. B., M. D.
Portland, Ore.

Every physician who has practiced medicine for many years, can look back over the history of some of the puzzling cases, and wonder what were the active causes in many cases, why apparently mild attacks of disease proved rapidly fatal in some instances, and why in other instances remedial measures produced prompt results and rapid recovery in seemingly desperate or well nigh hopeless cases.

The primary cause in a large proportion of such cases was autointoxication, the toxemia assuming a more virulent type in cases where there was a long period of incubation and akin to certain forms or expressions of ptomaine poisoning, where the ingestion of the first germs was not productive of severe symptoms, but as the germs multiplied in a favorable soil the body was overwhelmed. In those cases where all the symptoms indicated a rapid onset and profound poisoning of the system, followed by rapid recovery, the liver was turning back the poison and it was being carried off rapidly by both the intestinal tract and via the urine. Some of the apparently mild cases, which were suddenly snuffed out and were such a shock to us, were probably due to the establishment of metastatic centres, notably in the brain producing sudden death by convulsive seizure, causing rupture of the vessels of the brain, or in other ways seen in metastasis.

In the light of present day knowledge of the fact that the body fluids and secretions contain poisonous materials and elements, which are harmful or harmless in proportion to the quantity of these poisonous elements present at a given time, and the ability of the body to resist, antidote, or eliminate them promptly, we wonder why so many escaped death.

Infection may be more or less local and walled off, so to speak, as in septicaemia, but the secondary effect may result in intoxication, after the local condition has been apparently subdued by local constitutional means plus the protective processes within the body. So too a human being is not only poisoned when he takes poison by the stomach, or inhales a poisonous gas, but also when he is attacked by certain diseases. To put it in another way the human body is a container for poisons taken in from without, as well as a chemical laboratory which manufactures poisons. In a normal healthy condition man contains poison. He continues to live and enjoy good health as long as the normal content of poison in blood, bile, urine, and within the alimentary tract does not increase beyond a certain proportion, and as long as the protective agencies of the body continue to perform their functions, and elimination is active and continuous. When these complicated bodily functions are disturbed or suspended disease or death results. Man is protected from exaggerated normal poisons, as well as from external poisons introduced into the system, by his liver arresting the poisons brought from the intestines by the portal vein before they pass into the general circulation, by either neutralizing them or turning them back into the intestine. The excretory system helps this operation by expelling the poisons in the circulation.

The urine contains poison and is toxic, not one poison but many, but it carries away the poisons so we escape death. The urine is the great current for freeing the body of poisons of all kinds. For this reason in many forms of dis-

ease cold baths with diuretics are better than the old method of hot baths and hot packs, for the simple reason that profuse diaphoresis abstracts an undue amount of fluid via the skin, with a corresponding lessening of the quantity of urine. This has the practical effect of blocking the exit of a large amount of poison, through the urinary tract, because the volume of urine is decreased.

Certain nervous phenomena are the direct result of poisons, being in fact the secondary effect, or intoxication. The excitation of the nerve centers under these conditions seems to have a dual effect, the first being the development of certain nervous diseases, the second being the increase in the activity of the excretory apparatus notably the quantity of urine. Certain profound emotions like anger, sudden sorrow, or fright, certainly develop poisonous alkaloids in the body, and these sudden crises in the physical economy, are almost universally accompanied by the flow of large quantities of clear limpid urine, frequently with profuse diaphoresis, and occasionally with profuse lachrymation. Fright particularly is often succeeded by watery diarrhoea. The protective apparatus and processes of the body immediately recognize the danger to life, open every possible outlet, and start the elimination of the poisons. This action is akin to and correlated to the nervous mechanism which regulates blood pressure, when the heart action is suddenly increased in violent and sudden physical exertion like running, by opening and narrowing the blood channels until the circulation regains its normal speed and volume. The elimination of poisons has however a chemical action in neutralizing these poisons so they will do no harm while en route to the exit, as well as a selective and elaborative action in casting off the poisons. How much, if any, influence the chain of glands including the pituitary, the thyroid and the suprarenal capsules have in this protective action of the body in expelling poisons is a matter of conjecture, but their influence on blood pressure is admittedly great. It may be that here in this chain is the real seat of life. Who can tell? The whole action of the human body is largely compensatory. When a poison is introduced or manufactured in the human body immediately the protective processes are started to neutralize and get rid of it. When some function or element is disturbed or lacking the body endeavors to replace the missing element, process, chemical, or function, and so preserves and perpetuates the normal body.

The blood plasma is not highly toxic, but its cells contain poison.

The bile contains poisons, but its coloring matter is more toxic than the biliary salts. These however are precipitated in the alimentary canal.

The alimentary canal of course contains much poisonous matter both from the bile and the products of putrefaction.

In this connection it is interesting to note the results of some physiological experiments. One physiological chemist states "4 to 5 cubic centimeters of bile are required to kill in convulsions a living animal weighing one kilogram, and, since the daily secretion of bile is about 1,000 cubic centimeters, we must conclude that during every 24 hours a man makes, by the activity of his liver alone, an enormous quantity of poison, —enough to kill in 24 hours, three men of his own weight, 1 kilogram producing enough to kill 2,800 grams of living matter. Man forms in eight hours enough poison to kill himself simply by his own hepatic secretion."

Man does not eliminate half the quantity of bile necessary to kill a man through the urine in 24 hours. The balance is neutralized in the blood, intestines, liver, and in the tissues.

In certain diseases of the liver where there is jaundice its function of protecting the system against poisons by neu-

tralizing and turning them back into the intestines is weakened or materially lessened, then naturally follows the presence of bile pigment in the blood, decreased amount of bile, and uraemia. If in this condition the kidneys do not perform their work thoroughly the poison is retained in the body.

What are the protective processes or defenses of the body? How do they act? How can they be turned to assist in the treatment of disease? Can we imitate nature and merely assist her work in our efforts to rid the system of disease, or restore the body to its normal healthy condition?

Oxygen, the alkalinity of the blood, the action of the liver, the excretory apparatus, the internal secretions, and the leucocytes combined with the delicate chemical actions and reactions within the body and beyond our ken may be said in a general way to comprise the protective processes and defense of the body.

They act by neutralizing and eliminating poisons, by drawing on reserves of stored up oxygen, and other elements when these are depleted, and by keeping assimilation up to the standard necessary for normal health. I have my doubts about the efficiency of live and dead germs introduced into the body, and I am dubious about the results claimed as being due entirely to the administration of such germs. True the blood count in certain cases may apparently show improvement, indicating greater resistance, but we may be witnessing a post hoc and not a propter hoc. Certainly it is too much to claim that dead and live germs would produce similar effects. The activity of the body processes after the introduction of these germs is in my opinion the effort of the body to cast them out, to neutralize them, to nullify their action, and the beneficial effect following their administration may be and undoubtedly is the rallying of the reserves stored up in the body for just such emergencies. Ample proof of this is afforded by the administration of certain diluted drugs, which produce absolutely the same phenomena including increased blood count and improvement in the general condition. So we can easily go a step further and suggest that remedial agents generally given for their constitutional effects act merely by exciting and bringing into action the protective processes and defenses of the body. The elements, the chemicals if you please, required by the body in its mysterious laboratory, are taken from our food and water. If we attempt to supply these elements in mass as drugs it is rejected by neutralization or elimination.

The modern germ theory and the pathology based thereon has given us a strong hint for treatment, but only a fraction of the medical profession has acted upon it. That finger post is the power of matter and capability for absorption when in a condition of extreme divisibility, or dilution, for the merest tyro in medicine or science knows that the ultimate chemical elaboration of matter within the body is made only with matter minutely subdivided, all other matter is rejected. This is amply proven for instance by the action of the product of the suprarenal capsules, which produces its characteristic effect in highly dilute solutions such as 1 to 5,000 and 1 to 10,000 of normal salt solution. In this connection it is interesting to note that the synthetic preparations made to imitate the products of the suprarenal capsules are quite as effective as the latter. This bears out my former statement that the introduction of germs is unnecessary, as other elements, or drugs if you please to so designate them, produce identically similar effects, and further that the results observed are the bringing forward of the reserves, and the increased activity of the protective processes of the body.

Chloride of sodium is one of the greatest of the protective elements of the body. Salt solution is nature's great

menstrum in the body. In the old days when enemas of water were so much in vogue, continued weakness as the result of such injections was noted quite generally, but when salt was added to the water no bad effects were noted, or rather the bad effects of the water alone were eliminated. In cases of sudden weakness, or prostration in disease deep inhalations to supply an increased amount of oxygen, with salt water by mouth, and the remedy given in a normal salt solution is universally helpful. Salt seems to be the principal element or material which the body laboratory uses in the elaboration of its chemical processes. This suggestion leads to the thought that there are certain crises in the chemical processes of the body when there is a shortage of salt, when salt in the food for some reason fails to supply the need, when salt in the form of normal salt solution given per oram will be immediately assimilated, if we may use this word because it is in solution and does not require as much elaboration as salt taken in food. The normal salt solution as a vehicle for the remedy is in my opinion the natural and most effective one we can select.

In conclusion let us briefly recapitulate the various theories of immunity, and see wherein homoeopathy and our method of drug selection and administration is related to the diverse views held and practiced by the dominant school ofmedicine.

Just now the artificial production of immunity, where the observer believes immunity does not exist, or where immunity in his opinion will relieve or cure certain conditions or diseases, has the call as a popular method of drug administration. 606 is a notable example of the latest craze, and in my opinion it has so much to condemn it and so little to recommend it, it is strange it ever secured a foothold. As one physician cheerfully told his patient, "it may kill you, but if it does not kill you, it will surely kill the disease." Remarkably scientific is it not? But after all a certain class of physicians run after any old thing put out under a German label, and endorsed by some high browed savant. Metchnikoff in 1883 started out with the theory that the white blood corpuscle or leucocytes were practically the only defensive agency of the body against bacterial invasion possessed by the body cells. Later he claims that immunity does not always depend upon the same fundamental reactions. Immunity may be secured by either destruction of bacteria by body cells, by certain juices or enzymes, or the action of these enzymes on poisons generated in diseases like diphtheria. In other words some strange and wonderful things are being done in the chemical laboratory of the human body, but just how these subtle reactions occur is so far beyond our ken.

Ehrlich's side-chain theory is based on a belief that protoplasm is extremely complicated in structure with enormous groups or side chains of molecules. These side chains or groups are receptors for substances which benefit as well as seek to destroy the cells. As nature is prodigal in her methods of repair there is always an excess of these receptors crowded out and into the blood serum and body juices. These extra receptors in Ehrlich's opinion constitute the antitoxins and antibacterial serums. Quite an ingenious theory, but really no more than Metchnikoff's.

Behring in 1892 brought forward antitoxins for use in tetanus and diphtheria termed chemical immunity, and after this came the theory of the production of passive immunity by use of antibodies in serums.

Wright's opsonic theory is based upon the proposition that while the leucocytes ingest and destroy infecting bacteria, they do not have the power to do this until they are acted upon by some substance in the serum of the blood, which Wright terms "opsonins." According to Wright's theory phagocytosis depends

on the leucocytes, and the activity of the leucocytes depends on the activity and number of the "opsonins" in the blood. Hence immunity depends on the opsonic content of the blood. Quite an elaborate theory, but not more illuminating than Metchnikoff's basic proposition that the leucocytes do the business so far as we can demonstrate. Beyond that it is all surmise. In all these theories we see results of nature's laboratory work, but in my opinion all observers and theorists have always confounded and mixed effects, causes and end products together, owing to the limitations of human knowledge, and this has impaired the validity of their conclusions.

In normal health the natural defenses of the body are either neutralizing or eliminating bacteria and poisonous material.

In the so-called immunizing methods, chemicals, bacterins, and serums are introduced on the theory that they reinforce nature's natural defenses, or neutralize poisons already in the body. What warrant is there for such an assumption? None that I can see. The natural defenses are engaged in a battle royal to get rid of the poisonous material in the body, and we add more poison with the brilliant idea that somewhere and somehow in the inscrutable ways of providence if our luck holds, one poison will offset the other. The scheme may work out in a test tube, but the human body is not a test tube. Wonderfully scientific is it not?

To the physician who has observed the ravages of vaccination, the use of vaccines, dead and living bacteria, serums, and antibodies is a hideous nightmare from which the medical profession will some day awaken, and look back in amazement to the infection of human beings with tuberculin, pus germs, etc., with the stamp and approval of science. But it has ever been thus with the dominant school of medicine. It is the everlasting chase after sure cure alls, and the new and unusual in medical and surgical practice.

Nature tries to maintain an even balance, and if we term this condition of health possessed by the vast majority of human beings immunity in that they do not contract contagious diseases, and are seldom sick, well and good. There are bales of statistics to prove that vaccines and bacterins have prevented thousands from being affected with certain contagious diseases. Such claims are merely silly, and such evidence offered in a court of law would laugh the contender out of court. The marvelous strides of sanitary science in compelling cleanliness, and the natural resistance of a vast majority of the human race to disease under fairly sanitary conditions, accounts for the lessening of the virulence of contagion, and the smaller number attacked. How, pray tell me, can you prove that the individual, who was vaccinated, would not have escaped the contagion without the vaccinations. The evidence is ingenious but not convincing.

CONCLUSIONS.

1. In addition to the natural defenses of the body as outlined above there are reserve forces or substances stored up for use in emergencies—disease, injury, poisons.

2. The methods of elaboration and the ultimate chemical reactions within the body are unknown to a large extent, hence the imitation of a part of the bodily functions by the introduction of poisonous substances into the body is unwarranted and mischievous.

3. The attempt to secure immunity to disease by adding more poison to the body in the form of germs, and inoculating healthy individuals with disease germs is mischievous, unwarranted, and serves to further propagate disease rather than to check its ravages.

4. No proof has been offered or in the nature of things can be offered, either as to the point where individual invulnerability against vaccine and bacterins

ends, and where infection from the same source begins; therefore the inoculation of individuals with tuberculin, pus germs, etc., always exposes such individuals to disease infection, which is monstrous wrong.

5. Certain synthetic drugs such as a preparation simulating the effects of adrenals, and certain vegetable drugs, metallic substances finely divided, produce identical effects as those following the administration of vaccines and bacterins, but without danger of infection. The individual is therefore entitled to the use of the harmless agent.

6. In observing the apparent effect of drugs it is possible we do not see the real effect, but rather the rallying of nature's army of natural defense in response to the primary or secondary irritation, contact, or mere presence of the drug element or substance in the body. To put it in another way we are in all probability observing the defense of the body repelling the invasion of the foreign matter, and the so-called antibodies floating in the serum of blood and in the body juices and secretions are simply the dead heroes of the great reserve army, who have given their lives in defense of the body.

7. The activity of poison or any material irritating to the body in a state of extreme divisibility beyond the reach of the microcope is noted in the production of diseases such as scarlet fever, la grippe, and cholera. Air borne diseases encircle the world, la grippe breaks out in one part of the world, travels rapidly, by unknown means, appears in distant places without warning, their virulence not in the slightest degree abated by the distance traveled. Nature thus gives us two hints. First, do not introduce more of the same poison in the body to add to the flame and destruction, and, second, give mild similar drugs in attenuated or finely divided form to assist the natural defenses of the body.

THE SPECIFIC TREATMENT OF PELLAGRA.

By E. H. Martin, M. D., Hot Springs, Ark.

The importance of this subject may be realized when we consider that there have been probably 100,000 cases of pellagra in the United States during the past summer, and that we may expect possibly half a million new cases next spring.

This paper will be confined to the specific treatment of pellagra, as the symptomatic treatment has been fully covered in many recent articles on the subject. I wish to explain here in the beginning that I have much to say in this paper about malaria and syphilis, it being necessary to make comparisons in order to judge the habits of an undiscovered germ.

In 1909 I began to treat pellagra with soamin. While unsuccessful in a few cases, the soamin treatment gave brilliant results in others, and when it failed there was always some evident reason for its having done so—either the patient was in extremis, or there was some organic disease present. As this treatment is very easily carried out, consisting merely of subcutaneous injections given on alternate days, or even less frequently, it seemed ideal and had but one drawback. That one objection was one which can be offered against another specifiic, mercury, in the treatment of syphilis. I refer to the long period during which the treatment must be continued.

It was recently our custom to insist on at least three years of mercurial treatment for syphilis, and frequently this was not sufficient. Similarly a case of pellagra apparently cured with soamin will relapse unless the soamin injections are continued. Just how many years this treatment must be continued there has not been time enough to determine.

Those patients who made apparent

recoveries under the soamin treatment and who have kept it up during last season and the present summer have remained in good health. Those who have neglected the treatment have slight recurrences during this year, but have responded to soamin when treatment was reinstituted. This is about as good a record as would have been expected in the same number of syphilitic cases treated with mercury, and might have satisfied if a better treatment for syphilis had not been discovered.

Reasoning from the fact that soamin had proven a powerful specific in syphilis and also in pellagra, it was but natural that when salvarsan proved to be even more positive in its effect on syphilis we might expect it to be also more powerful in the treatment of pellagra, especially when both soamin and "606" were built up from the atoxyl formula. This idea seemed to occur to many physicians at the same time, and I do not know who was the first to use salvarsan in the treatment of pellagra, but it was administered to many cases during the early part of the season. The results obtained were very unsatisfactory and the reports differed greatly. There is a reason for this as I will endeavor to explain.

The physiological effects of an intravenous dose of "606" on a person of good health are surprising by their absence. If the subject is free from the diseases affected by the salvarsan, the physiological effects are absolutely nil. This statement will meet with some doubt and cause some surprise, probably. Many bad results are detailed even by physicians ordinarily well informed; they are invariably repeated by men who have had little experience with the drug. The results of the disease and the reaction following have been confused with the effects of the drug. Faulty observation.

In speaking of administering "606" I always refer to the intravenous method, as the subcutaneous and intramuscular methods are barbarous and inefficient. Salvarsan is perfectly harmless and innocuous per se to healthy persons and I prefer it to the Wassermann test when in doubt as to diagnosis. A negative Wassermann is absolutely valueless, but a patient free from syphilis or pellagra or yaws will show positively no effects, good or bad, from a dose of salvarsan.

The picture is entirely different if the patient has syphilis. In a secondary case of some activity numerous spirochetes are killed within a short time after the intravenous injection. From the killed germs is released a quantity of endotoxin, and one would expect the same results as seen in a case of malaria when a crop of plasmodia mature and release the poison causing a malarial paroxysm. And that is just what does occur. This paroxysm, is all over in from six to ten hours in secondary cases, and the patient is up and about the next day, feeling very well. And if the reaction is severe you may be sure that all of the germs have not been killed; the dose should be repeated every two or three weeks until the reaction is feeble or lacking—then consider the patient cured.

The picture is again different in a tertiary case of syphilis. Here the chill is generally omitted and the fever runs lower and longer. In many tertiary cases of very long standing, especially in syphilis of the nervous system, the paroxysm is delayed in onset, requiring from four to twelve hours to acquire a temperature of 100 to 101 degrees. This may be from the slow and irregular killing of spirochetes which are imbedded in tissues having poor blood supply.

I cannot emphasize this fact too much. The statement is, as far as I know, entirely new. No observer has laid stress on this fact before. But you can rely upon it as an absolute truth that salvarsan will not produce a reaction in a person free from the dis

cases affected by it. All ordinary cases of venereal sore, even if the diagnosis between chancre and chancroid is in doubt, should be given one intravenous dose of salvarsan with the certainty of clearing up the diagnosis. If the sore is a chancre or mixed, you will get a reactionary fever of very short duration. In chancre alone, it will heal in a few days. If chancroid, there will be no reaction and the sore will persist. If mixed, you will get the reaction, but have a chancroid left. If any case you eliminate syphilis.

Another class of cases in which the diagnostic value of salvarsan is invaluable is the very numerous class of well-treated cases of syphilis of from three to many years' standing. Patients of this class are constantly consulting you and asking if they may marry, or if they may abandon treatment. They are latent cases in the strict sense of the word and they give a negative Wassermann, which means much for the present, but nothing for the future. Give these patients salvarsan and the reaction will prove that only 25 per cent have been really cured by mercury, and that 75 per cent have a few spirochetes left to kill. Also, you will know that these have all been killed unless the reaction is severe, and in that case other doses should be given until no reaction or very slight reaction occurs.

The points of a reaction are chill, fever, nausea or emesis, and bowel movements. The reaction is severe if there is a chill and a rise in temperature to over 100 degrees Fahrenheit. It may also be called severe if there is no chill, but a rise in temperature with profuse emesis and several bowel movements. Whenever there occurs nausea or bowel movements the reaction is positive even if the temperature rise is only fractional or lacking.

The rule is for this reaction to become less with each dose as fewer spirochetes remain to be killed. Take a secondary case of syphilis in full bloom, for instance, and there may follow a severe chill, temperature may go to 104 degrees Fahrenheit, there will occur profuse emesis with or without many bowel movements. A second dose two weeks later will cause a much milder reaction in every respect, and a third dose two weeks after the second will give a very slight reaction, or none at all.

The only exception to this rule is in cases of cerebral syphilis, probably in the presence of gummata of the brain. In one such case the first reaction was only to 101 degrees Fahrenheit without a chill. After the second dose this same patient had a very prompt chill and a rise of fever to 104 degrees Fahrenheit, with all of the other severe symptoms. Clinically, one would judge that the first dose destroyed the spirochetes which were easily reached by the circulating blood, and then in some unexplained way caused all of the specific organisms which had colonized in the gumma to re-enter the circulation, where they were met in numbers by the scond dose.

With apologies for this necessary digression from the subject, we will return to pellagra.

When we consider the fact that this so-called reaction, or paroxysm, does not occur from "606," but from the endotoxins released by the killing of the disease-producing organisms, and when it further becomes apparent that a similar paroxysm occurs in a case of pellagra after an intravenous injection of salvarsan, there is much opportunity offered for surmise as to the shape of a pellagra germ. As syphilis and yaws, two other diseases treated with "606," are each caused by a member of the spirillum family, or a similar species, it seems probable that pellagra has also a corkscrew-shaped germ.

Here must be noted an important difference in the paroxysm produced in a case of syphilis and in a case of pel-

lagra. Instead of a frank chill and fever, as in secondary syphilis, the paroxysm in pellagra is more like that occurring in a case of cerebral or spinal syphilis. And it is even more prolonged, lasting in some cases six or eight days. From this we may at least surmise that the germ of pellagra is not usually free in the blood, but has its habitat principally in nerve tissue, in the cord and in the brain. There the circulation of the blood is so indirect that germs in the center of a nerve bundle might escape destruction longer than in tissues having a rich blood supply.

When we consider the debilitated condition of the pellagra patients who were given full doses of "606" last spring and the severity and length of the reaction following, it is not surprising that few of us dared continue the treatment until we had time to think more clearly and form some deductions from our observations. I gave my first dose of "606" to a pellagra patient early in April. The patient was weak and emaciated and the fever which followed for six or eight days almost caused a fatal termination. This danger was added to by the secondary staphylococcic infection of all the deeper skin lesions, which occurred as soon as the pellagrus activity ceased, and the pellagrous activity did cease within twenty-four hours. The patient had extensive lesions on hands, arms and body. These disappeared in spite of the stapylococcic infection as promptly as new cuticle could be formed. The reactionary fever stopped after about a week. It looked as though the patient had been cured. The bowel movements became normal, the patient became stronger and went home. In a few weeks she relapsed.

I had a number of pellagra patients during May, but after the above experience I let the soamin treatment suffice except for those having mildly active cases, and whose strength had not been greatly impaired; to those I gave "606." Whenever given it acted as a specific and caused all of the symptoms of pellagra except neuritis to disappear promptly; neuritis is the most persistent symptom and leaves very slowly. But these cases did not stay cured. Relapses, or at least signs of activity, occurred in most patients in from three to five weeks.

(To be Continued.)

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A MISSOURI BABY AND SOME CASES OF DIPHTHERIA.

By J. P. Brandon, M. D., Essex, Mo.

This is the kind of babies that we raise in South East Missouri. Little Agnes M— was born near Essex, Mo., May 28th, 1911. She weighed 9 pounds

at birth. At seven months she weighed 32 pounds, in perfect health, fully and well-developed in every respect and one of the best-natured little babies

I have ever seen, hardly ever crying. The mother is 29 years old and weighs 120 pounds, the father fifty years old, weighing about 160 pounds. A very remarkable incident occurred in this family, the first week in January, 1912. I was called by phone and told that their six year old boy had tonsilitis. I found the little fellow very bad with diphtheria. I considered it useless to use antitoxin. He died that P. M. They had a little girl five years old. She had diphtheria. I gave 5000 units of Mulford's diptheria antitoxin at once and she recovered in a few days. Can't help believing, had I been called earlier, that the little boy would have recovered too. I am glad to say that little Agnes did not have a single symptom of the disease, though she was in the same room, all of the time where the little boy died and where the little girl was, while sick.

How did this happen? Because she is so large I was satisfied that she could not fight the battle of a long siege of diphtheria successfully. Can any readers of the "Medical Recorder" give me any cause for this abnormal amount of adipose tissue? Would like to hear from some of the medical brothers. "Get busy," tell us your experiences, write out some of the things that you know, for us.

With success to the "Medical Recorder," I am,

Notes: Was the case of diphtheria mentioned of the larygeal type? Nursing babies are less likely to have contagions or infectious diseases, most observers note. Would advise giving an immunizing dose of antitoxin, however, in all such instances. The doctor has not told us whether this baby was nourished by the mother or is a bottle fed child. We presume the former.

—J. V. S.

PHYSIOLOGY OF MARRIAGE.

By D. L. Field, M. D., Jeffersonville, Ind.

There are few diseases which owe their existence to any one cause to the exclusion of all others. A dozen causes, predisposing, may have their weight of influence; but licentiousness is not without its influence. A child born of erring parents, and taking the peculiarities of constitution of these parents, is, in this, wholly unaffected. He will take a tinge from his father or mother. Drunkenness, and licentiousness have been upon offspring to the third and fourth generation.

An illustration: a fine young man, with a rising family, enlisted in the army, and became a distinguished officer; but the army life finally ruined him by intemperance, and disease from licentiousness. He had a considerable family; and those born before he enlisted were healthy; but those born after, were afflicted with bad cutaneous diseases, and were prematurely carried to their graves.

How many there are who drag through life, when they might have been robust children except for parental transgression? Then such transgression often entails feeble mentality, as well as bodily weakness. Every man who abuses his constitution before or after he becomes a parent, robs his child of a measure of that vitality, which nature designed for it; and it is fortunate if his transgressions do not prove to be the destruction of his child.

In the days of Noah, before the flood, the people were "eating and drinking, marrying and giving in marriage; but wickedness of every description was rampant; and foul diseases were common; especially a disease almost as old as the human family, syphilis; was terribly prevalent. It has been a scourge of deserved victims, and sadder still, it scourged innocence. The extent and leathsomeness of prostitu-

tion, in our large cities, originates and disseminates disease, which entails fearful effects upon offspring, if such diseased persons are allowed to marry. That such should be permitted to procreate is a crime. It seems almost futile to inform the young men of the horrors of venereal diseases; and that it may everlastingly unfit them for marriage. Even gonorrhoea is a disease that entails dreadful consequences to the afflicted; and almost every physician knows what villain possesses a married man, who would infect his wife, and the mother of his children, with such a disease. We know of such fearful consequence upon wives, where nothing but the surgeon's knife saved them from death. It is surprising how prevalent gonorrhoea is among the wives of some classes of men. A man who would communicate syphilis or gonorrhoea to a pure women ought to be castrated.

It would be a good thing, instead of so many public libraries, which nine-tenths of the young men never enter, if we had an "anatomical museum" in every city, so that the horrors of vile diseases are presented in every degree, and the ravages vividly brought to their attention. It would be a fearful object lesson, and might deter thousands of young men from exposure. Here are found specimens of diseased formations, the result of venereal infection, such as glandular enlargements, bone diseases and deformities, syphilitic livers; syphilitic diseases of female organs; and all the stages of private diseases. Not only that; but the mouths, noses and throats are shown in all the necrosal conditions. Cases where the nose is literally eaten away. The victims suffer a living death.

One of the greatest delusions young men frequently labor under, is that these vile disease are easily cured. They will fall into the hands of a scoundrelly quack, who will promise thorough cure; and they are lulled into a false security thereby, and marrying later, transmit their poison to an innocent victim. He is led to the delusion by books and advertisements of sure cures; some of them purporting to be from eminent specialists, who claim to have a secret "Cureall," and they tell lies of how many wonderful cures they have made of the worst cases. Our newpapers used to teem with advertisements of these arrant quacks and impostors, who would promise for a reasonable sum to cure all secret ills, in a remarkably short time. Those ads are not so numerous now, nor so blatant; still we have some of the scoundrels with us today.

Then we have doctors in many communities who guarantee a positive cure for twenty dollars. Such promises smack of the mountebank. They are a disgrace. Physicians of respectability will not advertise a positive cure of anything. In "private" diseases, the system is so affected, that for any blood-sucker of a quack, to pretend to cure such diseases, is preposterous at least. They pronounce young men cured, who marry, and play havoc.

Young men, and old too, if they have ruined their lives by dissolute habits, would give almost anything, if they could begin their lives over again. How many pitfalls they would avoid, into which they have stumbled, and wrecked their health; but God has forbidden it. Men must learn to observe physical and moral law.

Parents should hold familiar conversation with their children; the father to the sons and the mother to the daughters; warning them of the terrible consequences that may be expected from an infraction of the moral law. Daughters should be instructed, and exhorted to defer any consideration of mariage, till they arrive at an age to decide on the character of one they may receive as a suitor. And no young lady who has good sense, and affection, loyalty and confidence in the

judgment and solicitude of parents, will engage herself in marriage to any one without consulting them before doing so.

How horrible it is to conceive of a sweet innoncent young woman linking her life with a moral leper; and almost as abominable, is the union of an eighteen year old girl to an old man. How often do parents consent; yea, encourage such a union for positions in society, and for money. Such a young woman sacrifices herself for money, and what it brings. She sells her charms for so much cash. In almost every instance it is disastrous to both, —as it should be. When the young woman's charms are in full blossom; her spouse is in the "sere and yellow leaf." To be sure congeniality ceases if it ever existed. Can it exist? Never; socially, intellectually or physiologically. The repulsiveness of a blushing young woman receiving the embraces of a decrepit old man; and maybe a parvenu. No doubt in very many cases, it is the latter.

For parents to consent, and daughters to marry thus, is a disgrace, if it isn't a crime.

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A NOBLE LIFE.

There are men in every community who have given over their lives unselfishly to the cause of humanity and in the death of whom the public feels a genuine loss. The passing of Dr. J. W. St. John of Janesville, Wis., recently marked just such a loss and the following tribute to his memory will be read with interest by every doctor.

A shade of sadness swept over the city when it was known that Dr. J. W. St. John was dead, and in many homes genuine sorrow was expressed, because of the feeling of personal love. A lifetime of three score and ten years, spent in a single community, is not given to many people to enjoy, yet this was Dr. St. John's privilege. He was present when the city was but a village. He developed with the city's growth, and his life was closely interwoven with its destinies, through many long years of generous and intelligent service.

There are some men who repel, and others who attract. Some men who pass up and down the streets, year after year, whom their neighbors only know as a passing acquaintance, because they are so taciturn, and so unapproachable that they live a shut-in life.

J. W. ST. JOHN. M. D.

Dr. St. John was the reverse of all this. Everybody knew him. He was approachable from every angle, and a word of kindly greeting always rewarded the intruder. In the homes of the lowly he was a patron saint and he blessed a multiude of this class of homes, without thought of reward, prompted by a big and generous heart, overflowing with sympathy.

An Irish woman called at his office, a year ago. She was suffering from an incurable chronic disease, and had been his patient for a dozen years.

She said to him: "Doctor, I am clean discouraged with suffering all the time, and wish I could die."

He looked into her face with that peculiar smile, so full of humanity, and said in his droll way: "Well, Maggie, I have thought sometimes that there are worse places than the sunny slope out on the hillside." Just a suggestion of the strength which sustained him through the long weeks of hopeless suffering.

Dr. St. John was a lover of nature as well as a lover of all mankind, and the men who knew him best, and who were the closest to him, were his associates in the woods and along the streams. He was a good companion and a good entertainer.

His outlook on the broad highway of life was hopeful and optimistic and his presence was like a ray of sunlight. He was one of God's noblemen, filling full his mission, and leaving a memory which will long be cherished in the field where he toiled and won.

Dr. James W. St. John was the son of Levi T. and Sarah St. John, and was born on what is known as the St. John farm, east of the city, Oct. 30, 1839. His father was one of the very first settlers in Rock County, reaching the banks of the Rock River, October 5, 1836, after a long and tedious journey from Hubbardtown, Vermont.

At the time he arrived there were but six white women within as many miles of Janesville and none at Beloit.

He went to Castleton, Vermont, where he attended a seminary for a year. He returned to Janesville and enrolled in the newly established high school from which he graduated. In 1859 he took up the study of medicine.

Soon after the beginning of the War of the Rebellion Dr. St. John enlisted as a medical cadet and saw six months' service at Memphis, Tenn., and immediate vicinity. Later he entered the Chicago Medical College and graduated with the Class of 1865. He then returned to Janesville and opened up a practice which was almost continuous until failing health recently compelled him to relinquish it.

Dr. St. John was married in February, 1873, to Mary E. Gibbs, daughter of Mr. and Mrs. Ivers Gibbs of Worcester, Massachusetts. She is his sole survivor.

The deceased has been honored with public office in the city of his birth on several occasions. He was mayor during the years 1875 and 1876 and for two years was president of the Board of Education.

BILL BAXTER'S TRIBUTE TO DOCTOR JIM.

It is particularly fitting at this time to recall the poem once written by Bill Baxter as a tribute to Dr. St. John. The verses appeared in the Janesville Recorder a number of years ago and so well do they express the delightful and lovable character of this respected citizen now passed away, that they are published below.

DOCTOR JIM.

If thar's a man eround this burg thet don't know Doctor Jim,
I jocks he don't know what he's missed, an' folks shud pity him.
Fer Doc he's practiced 'round erbout fer over thirty year,
An' thar's many a feller peggin' 'roun that wouldn't now be here.

If it hedn't been fer callin' Doc ter set some broken limb,
An' pull him out, as good as new, when his chance was perty slim.
Now Doc don't brag eround ther town an' tell what he can do,
But quietly goes and does his best ter pull a critter through.

He hez a sort uv healing smile on his brown old honest face,
An' patients feel he brings along a few more years of grace.
An' Doc he's done a sight of good a docterin' ther poor.

An' meny a heart hez beat with joy when he pushed through their door.

An' when they'd go to pay their bill, why Doc he'd start to grin,
"God bless your heart, my child," he'd say, "it ain't worth mentionin'."
Doc, he's sort uv careless like, cause his practice is so large,
An' it isn't over half ther bills he ever thinks ter charge.

I've an inkerlin sort uv notion thet more then half ther time
He fergits jest on purpose, like he does sometimes with mine;
An' many times I've known uv him when folks they couldn't pay,
Ter say, "well, never mind, my child, perhaps there'll be a day.

"An' if ther don't it's jest as well, I guess I'll get along."
An' then he'll crack some funny joke, er hum some pleasant song.
Now, Doc, he may look sort uv rough, but he's gentle as a lamb,
Unless yer kinder git him riled, an' then he might say d——n.

An' if yer did impose on him, an' git ter treddin' on his toes,
Ther chances are (once on a time) yer'd git a bloody nose.
For Doc wus clever with his dukes but thet was years ago,
An' a few uv us old-timers here, ter our sorrow know it's so.

An' dogs:—well gettin' down ter dogs, there's Doc's weakest pint,
An' many a one hez dug for fleas eround Doc's humble jint.
An' he warn't pertickler nuther ezactly ter ther breed.
Pointer, setter, hound er pug, they all uv 'em agreed.

Ther bill of fare that Doc sot up wud any kennel grace.
An' all wud run ter lick his hand an' watch his smiling face.
I've seen him mendin' up a dog thet hed a broken leg,
An' heard it whine an' look at Doc an' seem ter sort uv beg
Fer Doc ter pull him through, an' cry most like a child,
Then Doc ed talk an' comfort him, an' git him reconciled.
Doc likes ter fish, an' loves ter hunt, an' is handy with a gun.
An' it's many a deer thet he hez bagged an' dropped them on ther run.

An' shooting turkeys at a match, Doc's aim is good an' true,
An' most ther turkeys Doc ed own when ther shooting match was thru.
Doc hasn't nory chick ner child, an' it allers seemed ter me
Thet Doc wuz just ther kind uv man ter raise a family.

We need a few more uv his kind, we need sech men erbout.
We can't afford ter loose sich men, ner let their stock run out.
I don't ezactly know ther church ter which Doc does belong,
But a man thet does so much thet's good ain't time for much thet's wrong.

An' no matter if he hez no creed, when ther angels hear him knock,
Ther Lord 'ell make 'em let him in. He needs such men as Doc.
Now Doc is perty large uv heart, an' it's in ther proper place,
An' through his many years of toil yer cannot find a trace
Uv any mean er dirty act in which he tuck a part.
Why, darn it all ter sum it up, ther criter's most all heart.

* * * * * * * *

I see him, not in fancy's form, he's with us today.
I hear his voice, I see his form, I watch his manly way;
And in the years of long ago, when first I knew of him
I found him then, I find him now, the same kind hearted Jim.

BILL BAXTER.

Janesville Wis. Daily Gazette.

♠ ♠ ♠

Always be sure to write your name and address very distinctly.

MARRIAGES.

On November 16th, 1911, Dr. Grace M. Norris and Dr. Robert Ashton were married at "the little church around the corner" in New York City.

Dr. Norris has been a contributor to the pages of this journal for a long time. We published a picture of Dr. Ashton in the March number of the "Recorder," and we are glad to present the picture of his wife, (Dr. Norris in this number. Dr. Norris is a member of the United Daughters of 1812. Many of her ancestors were massacred by the Tories is 1778. The doctor has won an enviable name as an author of papers dealing with the American Indian.

♣ ♣ ♣

A RASH ANSWER.

A student at a medical college was under examination. The instructor asked him: "Of what cause, scientifically, did the people die who lost their lives at the destruction of Herculaneum and Pompeii?" "I think they died of an eruption, sir," answered the student.—Dr. Grace M. Norris.

QUERIES.

1. How can fees be universally standardized?

2. Detailed management of normal cases of confinement.

3. Treatment for acute and chronic cases of gall-stone colic.

4. Outline of treatment for cerebro spinal meningitis asked for.

5. Treatment of Gallstone colic desired, chronic and acute cases.

6. A subscriber asks for treatment for pellagra. (See answer this month.)

7. Please give a general outline of treatment for Cerebro Spinal Meningitis.

8. A subscriber asks for formulae for non-surgical treatment of epthelioma.

9. How shall we charge for various kinds of services, looking toward an ultimate standardization of fees of universal application?

10. Treatment for renal calculi is asked for and the question is propounded: What becomes of the calculus after it reaches the bladder?

11. Topics proposed for discussion, prostatic hypertrophy and urethral strictures (suggestions on the diagnosis and treatment of these diseased conditions will be acceptable and the ultimate result of a full and free discussion will be helpful to all of our readers.)

♣ ♣ ♣

In remitting kindly send by bank draft, post office money order, express money order or registered letter; if these methods are not available please send one-cent or two-cent postage stamps. Please do not remit by personal check unless fifteen cents extra is added, as banks now charge for collecting them

BUSINESS SIDE OF THE DOCTOR'S LIFE

DISPENSING VERSUS PRESCRIBING.

A varied personal experience, in which we have tried each of the plans suggested for a series of years, has fully convinced us that dispensing the remedies that one uses in the practice of medicine, is much the better way, to attain business and professional success.

Many years ago there were some real pharmacies and they were conducted by pharmacists, who scorned to cheat in the putting up of prescriptions, or to do differently, in any respect, than they were asked or directed to do by the doctor writing a prescription.

There were a few exceptions of course, but they were few. Those men did not counter-prescribe, recommend proprietary medicines, attempt to practice medicine, illegally, substitute different medicines than those prescribed, refill without authority, or comment to other physicians on each others' prescriptions, nor did they throw all of their influence in favor of any one man, but tried to treat all doctors alike and fairly.

In these days of drug stores instead of pharmacies, with every commercial attachment and all the side lines imaginable, we have a different condition to deal with. We wrote prescriptions for nearly ten years altogether and did not, at that time desire nor intend to dispense, but felt compelled to do so finally, because all of the above-mentioned unfair and illegal acts were perpetrated upon our patients and us. At one time being severely criticised, by the patient and his relatives, because a medicine acted differently than we had led them to expect it would, we went with the wife of the patient to a large metropolitan drug store and demanded to see our prescription and then whether it had been filled as written and secured a confession from the clerk, that it was not, because they did not have the ingredient written for, in the store.

At another time in the same large city, one of the proprietors told me that he had refilled a certain four ounce bottle seventeen times in one week, collecting $8.50 for a simple preparation and I only had one fee for writing the original.

Expressing my surprise he said that he had learned that an epidemic of diarrhoea prevailed in the neighborhood where the first prescription went and that they emptied the bottle and sent it back for as many of the neighbors as wished to get some of the medicine.

This was done in spite of printed directions on the blanks, "not to be refilled without orders from the doctor." When his attention was called to this he said, "yes, but if I did not refill it they would ask for a copy, which they are entitled to by the law of this state and go somewhere else and get it refilled and keep doing so the same as they have here."

The direct loss in fees, was not the only source of loss in such an instance, as it was more than likely that the people did not correctly diagnose the condition, only thinking that their child was sick in the same way and due to the same causes as in the original case and either because of this or of not administering the remedy as required by their particular case, or both these errors, failed to get the expected results as quickly as they thought that they should and concluded that both the medicine and the prescriber were no good and employed some other physician to attend the case. When I knew that these druggists were direct competitors of mine and the other doctors of the vicinity, in continually prescribing for people, as I had abundant

chances of seeing them do, and found them very willing to comment on other physicians' prescriptions to me, I felt sure that they would treat me the same when an opportunity offered.

I knew of one instance in which a druggist, suspecting, or guessing what a certain ℞ was intended for, told the patient that he could give him something better for the same purpose and induced him to lay aside the ℞ and let the druggist give him something for the supposed ailment.

In this case the druggist's diagnosis was faulty and his treatment (?) greatly aggravated a case of erysipelas and the story was told and proven true. Many physicians have been afraid to dispense, because the active hostility of the druggist was feared. This is not wise, as the people will soon make up their minds why he is opposing the doctor and attribute it to the very manifest reason that it is because he is not getting the trade.

The days of poly-pharmacy are largely past and a single remedy, or a very few in combination are now generally used. The dispenser, while dependent, in the same way as the druggist is, on the manufacturer as to the reliability of the agent used, it's purity and strength, learns very much more about the effect of the remedies used as the case progresses, and can change them if in his judgment it is necessary, at any time, as he has an oversight of the case all of the time and a new supply of the remedy can not be obtained elsewhere, than from the doctor. After the original examination, diagnosis and preparation of the medicine has been made, it requires but a little time to refill, if the prescriber keeps a complete copy of all the prescriptions that he fills.

This is important for the reason that it enables one to tell at any subsequent time, if a year or more even has elapsed just what was given to the same patient at another time. Very often the patient will not be satisfied with anything else than exactly the same medicine that was given to them before. This also affords an opportunity to show the patron just what a certain charge was for and impresses them very favorably respetcing one's thoroughness and attention to the details of their case, besides saving much time in trying to recall the salient points of the case as it presented itself at the former visit. It is an important adjunct to the case record, when used, and takes its place in a measure, if one is not kept. After one has decided what the remedy shall be, it takes but a little time to prepare it and properly label it.

All patients prefer to get their medicine directly from the doctor, we believe. The argument that the patient is protected from mistakes being made, by writing prescriptions, is not necessarily a good one, because we would as soon trust a doctor to prepare the right remedy as a druggist or his clerk, who hates to desert the soda fountain visit with one of the pretty young lady patrons long enough to properly attend to his work as a pharmacist and who may be more concerned as to whether his hair is correctly parted in the middle and his personal appearance quite to his liking, than about the filling of an important prescription, correctly.

In these days of manufactured elixirs and staple preparations, by reliable firms, there is not the same necessity for either the possession of pharmaceutical skill, or using one's time in making them.

In fact they can be more reliably made in large quantities and by skilled chemists than in a crude way in small amounts at a great loss of time and waste of energy. We do not wish anyone to understand that we are in favor of depending upon a ready-made therapeutics or the combinations offered by said manufacturers, but simply availing ourselves of their facilities to make extracts and tinctures and elixirs for us

with such ingredients in them, as we desire placed there. We must not overlook the medicines prepared in tablet, pill and granule form, which are even more convenient to use and readily lend themselves to our convenience and afford a good way to administer many remedies that can be prescribed to an advantage in this form. We do not feel that it is likely that our statements will arouse any controversy among the doctors, as we are sure that very many physicians have adopted the plan of dispensing, in fact, we know many practitioners who are dispensing, now who have commenced within the last few years.

We think that more attention should be given to the study of pharmacology in our medical colleges, and practice given in the actual compounding of prescriptions in their free dispensaries.

All possible familiarity with the physical appearance of the different drugs should be obtained and prescription writing as carefully studied for one's own purposes and information as though it was expected that one would never dispense their remedies. The druggist has so completely commercialized his business and is so thoroughly in the clutches of the proprietary medicine manufacturer and distributor, that he will continue to recommend them and prescribe them, together with those of his own make, in many instances, until he is properly dealt with for his constant infraction of the laws, regulating the practice of medicine. The requirements made of medical students who wish to practice medicine at the present time are quite exacting and those who honestly and earnestly try to comply with them, ought to be protected from such illegal and unfair competition.

The first cost of the drugs is not great and this plan affords an opportunity to ask that "all office business be 'Cash.'" The people having been taught to expect to pay the druggist cash in most instances, who usually get their pay, while the M. D. receives nothing at the time nor later either, in many cases.

—J. V. S.

♣ ♣ ♣

THE DOCTOR'S CHRISTMAS EVE.

Now bring me forth my fleece lined coat
And my boots with the hob nailed soles,
My mittens tough of the color of buff
And the cap with the warm fur rolls.

I'll need them all, my bonnne girl
On my journey to "Lushes" Bight.
For the winds will blow the feathery snow
As I go on my way tonight.

The waves crest high, the spume drift stings
As it whips against cheek and lip,
And low in the sky the storm clouds rush by
While the wild gulls circle and dip.

On such a night, far better here,
Than a sail on the briny deep.
But a call comes clear, to my listening ear
And tonight I shall take no sleep.

So catch a goat with udder full,
Fill a Thermos bottle or two,
For I'll need warm drink, ere the sun shall blink
And our long night's journey is through.

Then out in the long cold night he sped,
On his errand of mercy and cheer,
But his blood coursed warm, in that freezing storm
For his soul knew never a fear.

To that poor home at "Lushes" Bight
He came with a message of cheer,
He fought for a life, for the sweet young wife,
And he calmed her fright and her fear.

When blood red sun first flecked the sky
And touched with carmine, snow capped rock,
A soul new born, saw the light of the morn,
Heard the boom of the wild waves shock.

The mother heart sang out its joy
As she nestled that tiny child,
And her face shone bright with a heavenly light
While her eyes were misty and mild.

And the heart of the doctor sang,
As his boat danced over the wave,
"For Christ was born on Christmas morn
And in His dear name we can save."

—ELTINGE ELMORE.

The Wisconsin
Medical Recorder

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ORIGINAL ARTICLES are solicited from our readers. We wish articles which are sent us to be contributed exclusively to this magazine. We will send the writer of any original article, if desired, twenty-five extra copies of the number containing the article. We are also willing to send copies to the professional friends of the author.

LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 APRIL, 1912 No. 4

The "Child Labor" part of the Child Welfare question has been forced to the front by the strike now prevailing at Lawrence, Mass. This one of the phases of the work that the proposed Children's Bureau provides for, in the bill introduced into the Senate of the U. S. by Senator Borah and passed there, shows very clearly how useful such a bureau could be right now. It would be their province to investigate actual conditions and propose measures that could be taken to help secure justice to all concerned.

The question of "minimum wage" for women and children, established by law, is involved too. Such a law has been passed in Massachusetts and has been blamed by some observers with causing the misunderstanding that has led to the strike there. Similar bills have been prepared and discussed very thoroughly in Wisconsin and Minnesota, with a view of attempting the best possible solution of this question, admittedly of great importance to both the employer and the employee.

Much has been said and written about child labor and that of women in the factories of the south and disclosures made of the very undesirable conditions existing there, but statements made about the situation at Lawrence, if true, do not leave room for northern employers of women and youth to boast of any, or much better conditions among their woolen mills' operatives than obtains among the workers in the cotton mills of the "southland" operated, owned and managed by northern capital and men it should be remembered. Those who desire to study these important questions more fully can get some very helpful "Monographs" on these subjects from the "National Child Labor Committee," 105 East 22nd St., New York City. Some suggestive titles are: "Better Child Labor Laws in 1911," "Child Labor a Menace to Civilization," "Unrestricted Forms of Child Labor in New York State," "The Cotton Mill the Herod Among Industries," "The Uniform Child Labor Law," etc., etc.

Ove very strong point made against Child Labor is, that when the child is deprived of its childhood and compelled to work, when it ought to be learning how to take care of its body and filling its mind with needful knowledge, and the proper training of its moral nature, awakening its life to a realization of a reason for its existence, that when finally it has matured physically, mentally and morally, it will have an ambition to do the work of the world in the best possible way and to secure the best possible results, for itself and for the rest of mankind. Work is not made hateful then, when its purposes are understood as when an individual, immature in body, mind and soul is compelled to toil, when every instinct of its nature demands the right to have leisure and recereation and the best possible chance to develop into strong, healthy, happy

manhood and womanhood, for its own sake and for the sake of the generations to follow, that they will willingly provide for in the same way and thus can each succeeding generation improve upon the civilization and moral tone of the ones preceding it, and in no other way.

This plan seems of particular importance to the republican form of government, where the only safety and the only assurance of a permanent and beneficent administration of such a government depends upon the average intelligence and integrity of its citizens.

Anarchism flourishes only where ignorance holds sway and where the people are readily convinced by designing demagogues, that there is some way to obtain a living with less toil and they are being purposely oppressed by those who employ them.

Delegates have been appointed from all sections of the U. S. to attend the National Congress of Child Welfare to be held in St. Louis, Mo., March 20-25th, 1912, under the auspices of the "National Congress of Mothers."

The disclosures revealed by the testimony taken before the Congressional Committee, which has been investigating the Lawrence strike, show that wages have been altogether too low to meet the cost of living in that community, or in fact, in any place in our country. The climatic conditions and the distance from places where many of the articles of food supply are produced, of course add to the necessities of those interested in this strike.

The boys from Lawrence before the Committee testified that they received a little more than $2.00 for fifty-six hours per week. All of them were under sixteen and one now fourteen years old has been working two years. One, sixteen years old, testified that he received $1.64 for three days work and that he could never earn more than $5.10 per week and his father never made more than $9.00 per week. Each operative has to pay the Company five cents per week for drinking water. When all of the family over fourteen years old were working, they had enough to eat, but otherwise these children testified that they had to go hungry. Five or at most ten cents a week is allowed these young people for spending money from their wages. Several were foreign born and all were of foreign parentage.

The following statement vividly portrays the conditions prevailing among the cotton mills operatives:

"Washington, Feb. 23, 1912.—The standard of living among southern cotton mill workers, as related in a government publication given out today, tells a story of suffering and hopeless existence that is hard to believe. Twenty-one typical southern cotton mill families were selected by the government investigators. Their incomes and expenditures for the year 1908 were studied in detail and in almost every case these conditions were found:

The father and two or three of the older children work in the mill, yet the total income of the family bread winners is often less than $1000 a year.

The account at the company store running steadily above the family income.

At the end of the year a debt, which is met by an appeal to a loan shark.

To meet the added demand of interest and principal for the debt, another child is sent to work, and so on "until the trapped family has sent all its children into the maw of the mill."

Then the report records shocking statistics of disease, and death decimating the stunted, weakened population.

"In other industries,' says the report, "the father may feel that he can never hope for anything more for himself, but he can at least plan and struggle for a better life for his children. Here the mill demands the children as well as the fathers.

"The so-called normal family—father with wife and children dependent upon him for support—is not found among the twenty-one typical families studied.

Large families are the rule, the average of those studied being 8.5 members, including boarders. The average number of wage earners was 3.6.

"Corn bread, biscuit, pork and coffee form a large part of the diet of all families. Pork means fat pork, salted, containing very little lean. Nowhere is any expenditure noted for alcoholic liquors.

"Over 94 per cent of all operatives live in company-owned houses. It is a common occurrence to find a mother and small children, evidently insufficiently warmed, huddled about a small fire in one of the rooms.

"Measles, malarial fevers, typhoid pneumonia, skin diseases and tuberculosis are prevalent. That the people are not healthy is shown by the fact that every family studied was obliged either to employ a doctor or buy medicines. The people prescribe for their own ills, and are burdened with patent medicines and cure alls."

From their incomes the millworkers pay surprisingly large incomes to burial associations, being willing to undergo the greatest sacrifices in food and clothing to save themselves the disgrace of being buried in the Potter's Field. Almost every family was able to spare from their pinching necessities the mites for church or charity.

One very poor family gave nearly ten per cent of its income.

The report shows that the prisoners in the federal penitentiary at Atlanta are better fed than the majority of cotton mill families."

Certainly there is reason enough for the most careful consideration of this question. The working women and children of this country must be protected. We think that neither of them ought to be employed outside of the home and within reach of home influences. It ought not to be necessary to do this to gain a livelihood. —J. V. S

THE DOCTOR'S LIBRARY

SEX HYGIENE FOR THE MALE AND WHAT IT MEANS TO THE BOY, is the title of a book written by G. Frank Lydston, M. D., Chicago, Ill., Professor of the surgicial diseases of the Genito-Urinary organs and Syphilology, medical departemnt State University of Illinois, Member of the American Medical Association, the American Urological Assn., of the Society of Authors, London, Eng., author of "Diseases of Society," "The Blood of the Fathers," etc., Delegate of the U. S. Government to the Congress for the Prevention of Infectious Diseases, Brussels, Belgium, etc., etc. Illustrated with 24 engravings. Riverton Press, Chicago, 1912. Price $2.25 prepaid.

In the author's introduction, among other things said by him, will be found the following: "The results of the prudery of society and the narrow-mindedness of some medical men have been most disastrous. Boy, youth and man have been allowed to get such misinformation as they might and in any way they choose. Sex mystery and dangerous fascination of sex suggestion obtains, until it is no wonder that youth has fallen into evil ways through a combination of curiosity and ignorance, backed up by natural impulses. 'The deadliest foe of progress and enlightenment is secrecy. 'Sex secrecy, false modesty and moral cowardice have been the upas tree under which quackery, ignorance, vice and venereal disease have flourished and destroyed youth. 'Conorrhoea is probably the most frequent disease experienced by the adult male human being. This disease permanently cripples one in one hundred of the population and kills one in two hundred." There is the most ju-

dicions and scientific treatment of the questions of sex hygiene and social hygiene to be found in this book that we have ever seen. It is written for the layman's use too and is not equaled by any other volume of which we have knowledge for the purpose of being placed in the hands of the young men and the older men of our acquaintance a correct statement of all the facts relative to sex hygiene. It is a valuable book where there is an opportunity to help an individual to avoid contracting loathsome diseases and escape the association with vice in other forms. It tells the exact truth of their condition, to those who have been tampering with the social evil or with their own bodies. Thus saving many from despondency because of the false and very greatly exaggerated statements made to them by the quacks, who prey on the fears of those who have seen their advertisements, for only one purpose, that of robbing them of all the money that they can extort from their dupes, made so because of their ignorance. No greater benefit, physically and morally, can be conferred on a young man than to place this book in his hands and let him help others younger than himself, passing the knowledge that he has gained to others. —J. V. S.

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From the press of Duffield and Company, New York City, comes the book, "Home Hygiene and Prevention of Disease," by Norman E. Dittman, M. D. In the introduction the author makes the following argument: "The public as a class has been saved much suffering and the avoidance of future inconvenience by the knowledge, which it has assimilated on 'first aid to the injured.' Similar benefit should result from popular appreciation of the methods of 'first aid to the sick.' For often, in the case of illness a stitch in time saves nine."

Also "the readers of this book should be better enabled to appreciate when an ailment has become serious enough to require medical attendance, or when a disease is from the outset beyond the aid of unskilled hands."

All of this one can readily endorse and in the main the book seems calculated to serve such a purpose. However, we think that there are too many prescriptions given in the book, which are calculated to tempt the laity to try them first before sending for the physician. Perhaps, this could not be expected to have been left out by an M. D. author of such a book, but we think that the laity are not able to properly use some of the medicines recommended, nor can they be expected to know how to do so, or to even know when they can be used to advantage.

We have always been opposed to the introduction of formulae of prescriptions of active remedies into a book of this character, believing that instruction regarding the use of ordinary household means, always at hand and with which no harm can be done, is all that should be attempted.

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THE TRATMENT OF IMPOTENCE.

Every physician is bothered with cases of this unfortunate condition, which usually he cannot treat. They go from one doctor to another, always unhappy.

It is true that impotence is a difficult disease to handle, but those physicians who have found the value of Supos. Prostans meet these cases with much more pleasure than formerly, for, while the results are not specific in every case, the majority are very simple procedure. Secure the booklet much benefited by the use of this "Successful Prostatic Therapy" in which the philsphy of this method of treatment is described. Address the Regent Drug Company, Detroit, Mich

Wisconsin Medical Recorder

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VOL. XV MAY, 1912 NO. 5

ANTIBODIES

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

We have got into the habit of speaking of antibodies quite as a matter of fact, but only few realize what is meant by the term. As a matter of fact, the theory of antibodies is analogous with the molecular theory in chemistry, in this way. Just as no one has ever seen a molecule or for that matter no one probably ever will, no one has or ever will see an antibody. But just as no one expresses any reasonable doubt as to the existence of molecules, so no one doubts the existence of antibodies.

A serum containing antibodies does not differ physically, chemically or microscopically from a serum without them. It is by their effect alone we knw they are present. We do not know in what form they occur, although the weight of opinion considers them as being chemical in nature.

As we have learned in previous chapters, antibodies are produced in the serum of an animal in various ways—naturally and artificially. But when we speak of an immunity, which while due to antibodies, may yet be due to either one or many different kinds, we must try to discriminate between them if possible.

Antibodies may be roughly divided into two divisions, acording as they are directed against bacteria or other cells on the one hand, or against bacterial or cell products on the other. We may call them respectively anti-bacterins and anti-toxins, although these terms express only a small part of their action.

A short resume of Ehrlich's side-chain theory will be necessary here that a clear understanding of the matter may be had.

In the first place, he noticed that the physiological action of toxins differed from that of alkaloids and other poisons in three respects. These were (1) their ability to produce antibodies in animals subjected to their action, (2) the manifestation of their poisonous action only after a definite period after injection (the period of incubation), and (3) an extremely labile composition, that is, transformation into substances which while still capable of producing antibodies, had lost their power of producing disease. The toxins degenerate into toxoids.

These facts and also the fact that toxic bouilllon of diphtheria, for instance, showed no relation existing between intoxicating and antitoxin-combining power, led him to the conclusion that the toxin molecule possessed two groups, one of which served to unite it to the cell, while the other produced the intoxication or disease. The first of these, or the combining group, he described as the haptophore and the other as the toxophore group. The haptophore groups were constant in quantity, the toxophore variable. This explained the fact that different cultures of the same strength as far as combining with antitoxin was concerned, were widely

dicerent in their toxic properties. This was due to the fact of some of the toxophore groups having degenerated, the toxins being converted into toxoids.

Another fact noticed was the time that elapsed between the union of the toxin with the cell and the production of symptoms. This time was required for the union of the toxophore groups with the cell, or possibly for its development in the toxin molecule.

The ability of the cell to unite with the toxin molecule is due to similar groups or side-chains in the cell as in the toxin, which were called haptophile and toxophile groups, the former usually being referred to as receptors.

When a toxin enters the circulation, its haptophore groups become fixed to the receptors of the cell, the union having thus taken place, the toxophore group will eventually unite with and poison the cell.

So far, the mechanism is probably identical with that of cell nutrition. The question as to whether or not a given substance is capable of being assimilated by the cell, depends on probably similar haptophore groups which can unite with the cell, and having united, their nutritive groups, which are analogous with the toxophore groups, eventually unite with and nourish the cell.

Another interesting fact in this connection is that the toxins are probably protein bodies of a complex character, similar to some assimilable food-stuffs. Hence, the mechanism of their union with the cell is probably similar, only injurious instead of beneficial.

If, as seems likely, the same receptors are involved in nutrition as have become fixed to the toxin, we are confronted by a defect. The cell must have nutrition, and its mechanism for this purpose is anchored, so it cannot perform this function. Now, nature's remedy for any defect is always the same, namely regeneration. New receptors or side-chains are produced to make up the defect.

If now, as is done in systematic immunization, fresh quantities of toxin are supplied at suitable intervals and in suitable quantities, these regenerated side-chains will again be fixed by the toxin molecules, thus stimulating the system to renewed regeneration.

To make a long story short, as the rule of nature in any case is not simple replacement but over-compensation, these side-chains are produced in such excessive quantities, that they become eventually too many for the cell to carry and are cast off. The blood takes them up as it would any other excess secretion.

These surplus receptors, existing in a free state in the blood, are the antitoxin. For they have the property of fixing toxin molecules wherever they meet them, and being unattached to any cell, the toxophore groups have nothing to combine with and are harmless.

As Behring aptly put it—"The same substance which while attached to the cells of the body is the prerequisite for an intoxication, becomes the means of cure when it exists in the circulating blood."

The specific nature of antitoxins is also explained by this theory. Tetanus antitoxin is only produced by tetanus toxin, and diphtheria antitoxin only by diphtheria toxin. It also explains why a comparatively small quantity of toxin may produce large amounts of antitoxin, and why this antitoxic immunity persist for a long period of time. By the very act of immunization, certain cells become converted in cells secreting antitoxin as fast as this is excreted. This may continue for long periods.

Natural immunity may also be explained by the fact that in an animal immune to a disease, those particular receptors fitted to unite with that particular toxin do not exist.

But while this explains the forma-

tion of antitoxins, and their action, it does not explain some other phenomena of immunity. It was thought at first that bactericidal sera for instance, would be as effective therapeutically as antitoxic sera. But this is not the case. We know now that while in antitoxic sera we have to deal only with one substance—the antitoxin—in bactericidal sera we have at least two, or should have, to make them effective. These are the specific immune body, or amboceptor, and the complement or alexin. It is the latter which destroys the bacteria, but the former is necessary before it can do so. And most bactericidal sera contain only an increase of the immune body, without a corresponding increase of the complement. Complement is usually absent in cases of infection. And as there is no known method to increase it, the inefficiency of injecting a serum containing only the immune body is readily seen. Most sera are useful only by their antitoxic, not by their bactericidal power.

To explain this more fully, it must be remembered, that instead of dealing with only the relatively simple products of microbes we are confronted by a much different condition when the living micro-organisms themselves come to be considered. The solution of their bodies in the organism yields a great number of antibodies of a different nature from antitoxins. Besides the specific bacteriolysins which dissolve the bacteria, we have the coagulins or precipitins, the agglutinins, the antiferments, and no doubt many others.

Taking the bacteriolysins for example, or any other lysins, we must recognize that they are formed in response only to absorption of highly complex cell material, such as bacteria or blood-corpuscles. If we assume that there are special side-chains, fitted on the one hand with a haptophore group by which they can pick up material, and a zymophore group by which they can digest it, on the other, we can readily see that artificial immunization may cause an over-production of these special side-chains on the same plan as the more simple antitoxic antibody was produced.

But the so-called immune body or amboceptor is specific only against a certain kind of cell or bacterium. It has two haptophore groups, one fitted to that particular cell, the other to the complement, which we will say acts as the zymogen molecule or ferment. If now, sufficient complement is present, it will dissolve the cell or bacterium as the case may be. If not, no action takes place, even though the amboceptor be in excess.

It is probable that the other antibodies, precipitins, agglutinins, etc., act in a similar manner. As to just how this effect is accomplished cannot be definitely stated. It is likely that each particular ingredient of the bacterial body gives rise to a specific antibody, best fitted to render it harmless, whether this be by solution, coagulation, precipitation, or agglutination. As far as the mechanism itself is concerned, the original Ehrlich principle may be made to apply to all of them, and we may repeat it here. Over-stimulation of any particular group of receptors will cause over-production. And whenever more recptors are produced than the cell can carry, they are taken up by the blood and there exert their specific action on either bacteria or alien cells, or their products, whichever they are directed against.

♣ ♣ ♣

The Prisoner at the Bar—"Now I asks yer, gents of the jury, if I'd got away with all dat swag, like they say I did, d' yer s'pose Id have hired this here little fifteen dollar lawyer t' defend me?"

DEPT. OF THERAPEUTICS

WM. F. WAUGH. A. M. M. D., Chicago, Ill.

THE COLLEGE ATHLETE.

W. G. Anderson, Director of the Yale Gym. makes a study of mortuary data to ascertain if the "Y" man was shorter lived than the ordinary student. It had been claimed that the development induced by the training being unutilized in after life tended to shorten its duration. These data were examined by insurance actuaries, who pronounced the athlete a better risk than the others.

A study of 808 athletes, during a period of about 50 years, showed a mortality of 46% of what should have been expected from the actuaries' tables. His conclusions were:

The Yale athlete does not die young nor is heart disease a leading cause of death. Lung trouble is the cause of the greatest number of deaths (consumption 12, pneumonia 6, out of 58), but the percentage of men dying from these causes is not greater than the expected deaths from among non-athletes from similar causes. Comparison of the causes of death among the athletes and those insured below 45 years does not develop any irregularities in the distribution of deaths. The proportion of sured deaths among the athletes from tuberculosis was 22 per cent; among the insured, below 45, 45%.

College athletics provides for those who need it least. It is the development of the non-athletic student that should receive the attention of such institutions. Statistics that showed a correspondingly high longevity record on the part of all the graduates of a college should appeal to the parent selecting a school for his children, rather than the number of intercollegiate contests won by the few trained at the expense of the rest. But the grand stand play is the thing. This burly athlete at the head of the sporty line and a flat-chested big headed phenomenon of learning at the end of the scholarship line, and the rest like the ciphers that add value to the 'one' in 1,00,000, form the classes. The scientific development of mind and body in all, forms an ideal as yet to be developed by our colleges.

Its practice should be easy enough. Let the faculty sit in judgment on each student as he matriculates, and prescribe the course of study and exercises he requires, to the end that Commencement may present a body of men who, by their scholarly acquisitions and perfected health may make glad the hearts of the parents who entrusted their sons to the institution. The clean habits and clean thinking of the athlete who possesses the college spirit, and feels that the honor of the college is entrusted to him, make for honorable and moral conduct; but every student should cultivate the same sentiment. Every school that inculcated such ideals would be a source of uplift to the community, an active influence in encouraging high thought and clean life among those who, not having enjoyed the good of an education there, are still ambitious to show that they too are capable of as good things as even the Yale man.

ANIMALS OR BABIES.

The St. Paul Pioneer Press tells us that the Rockefeller Institute of Research and the New York Health Department are conducting some interesting "observation" on the tenement children of that city. Five hundred infants were held under observation in all sorts of conditions, and thirteen died. Fifty were living upon very poor milk, and like numbers on better milk, certified, and pasteurized milk; also fifty on mothers' milk. Of the 250 observed in winter but one died, of pneumonia—out of the mothers' milk group. Of a similar number during summer seven; four in the very poor milk class, and one in the best milk

died. Thirty-three were so ill they would have died but for the treatment received. Had all received pasteurized milk none would have died, says Dr. Park. Yet they were allowed to die when the change woould have saved them—to demonstrate a point that nobody doubts. Dr. Park is very careful to designate these as "observations," not "experiments." The latter are made on kittens. If there is any other difference it is not mentioned in the Press article.

Results count, said Napoleon as he carved his way to an iron throne leaving a trail of blood that a century has not wiped out.

Results, said Timour, as he piled a million human skulls into a pyramid.

Results, says every ruthless man who disregards the sanctity of human life.

Yet the results achieved by the Rockefeller Institute cannot be better than those already won by many an obscure practitioner who does not make "observations" on babes, but cures them.

Dr. E. L. Newcomb, head of the department of pharmacognosy in the University of Minnesota, promises a yield of $4.606.80 to the acre for the Minnesota farmer who will engage in raising digitalis. This return per acre is based on the yield of one plant grown in a medicinal plant garden under the direction of Dr. Newcomb. His estimate is founded upon a valuation of digitalis of $1.20 per pound.

The item reads mighty alluring, but where is the man to get any such price for digitalis leaves! Moreover he does not tell us, at least the item in the Practical Druggist from which we quote does not, what is the relative strength of his digitalis. It may be remembered that digitalis originally grown in gardens in America proved to be absolutely devoid of medicinal powers, and while that may not appeal particularly to the druggist, it certainly does to the physician.

DEPT. OF SURGERY

By Louis Thexton, M. D.
Chicago, Ill.

Ever since the discovery of bacteria as the cause of infection, surgeons have been seeking some agent to cause destruction of these germs in order to assure aseptic or healing of wounds by primary union. From the days when the surgeon operated under the spray of carbolic acid solution to the present time, numerous agents have been tried and discarded, no great number of surgeons adhering long to any one remedy. Of all the articles tried, only one has seemed to stand the test, viz. soap and water. This has been the basis for all asepsis, and to the surgeon is the sheet anchor on which he must depend for results. During the past fifteen years, I have used nearly the whole list of aseptics with varying degrees of success, but never to my entire satisfaction. For the past two years, I have discarded the use of antiseptics in all cases where we can reasonably expect no virulent infection. By this I mean that in accidental wounds when dirty clothing or street dirt has been introduced, or dirty dressings applied, we have used antiseptic solutions to wash out, but in all selective cases and in wounds made by machinery which is in constant contact with new or clean material, I use no strong antiseptics. My belief is that with the tissues in a clean, normal condiion, the parts are able to take care of bacteria, and overcome the tendency to infection, but when the vitality of the part is affected by the action of a drug sufficiently strong to be of any value, the chance for development of bacteria is increased, the superfiicial necrosis forming the best kind of culture medium for their growth.

Selected a case for operation we scrub

with suds of green soap which has previously been reduced to a fluid state so that it may be poured from an ordinary bottle; the soap is poured into the water sufficient to make a strong suds; the part is then scrubbed with this, using gauze (not brushes) for five minutes, and the skin shaved. I wish to call attention to the fact that we do not apply the soap to the skin, and then pour on the water as so many do. By doing this, the soap is washed off the part and good results are not obtained. If not an emergency, a moist salt solution dressing is now applied to remain until the patient is brought to the operating room. When the patient is anaesthetized, the part is again scrubbed with the suds which are then removed with clean water. This is to be done by the assistant with clean hands which have been scrubbed in suds of the same character. I then allow the assistant to put on gloves and finish the cleansing myself. I use alcohol on gauze (never pouring it on the patient) and wipe the parts well. My object in this is not that the alcohol is an antiseptic, but to remove any oil on the skin which the prolonged scrubbing with hop soap suds may have caused to be excreted by the glands. I then wipe off with normal salt solution and the field is ready to operate. In accidental injuries where the wound has been made by reasonably clean machinery or is open sufficient to allow of thorough cleansing, I employ the same method except that we pour large quantities of warm, normal salt solution into the wound using gauze, if necessary to wash away any detritus which may be on the wound surface. In closing wounds, I find it extremely important to stop all oozing and to secure accurate coaptation, leaving no dead spaces or clots. Incisions made by the surgeon, I find are much better closed by the subcutaneous suture. Where I have found it necessary to use reinforcing horse hair thru the skin, I have invariably observed some irritation and redness follow. This irritation does not occur when only subcutaneous sutures are used, and we must not lay it to the action of the microorganisms which remain in the cutaneous glands in spite of the cleansing. I do not want to convey the impression that this method has invariably resulted ideally. Even after the apparently most scrupulous care, we have had infections. The causes of these infections have usually been traceable, but not always. Once after several cases of infection, following in rapid succession, we investigated the dressing sterilizer and found a misleading thermometer. Another frequent cause, I believe, is in the gloves of the assistant or nurse who has not been instructed how to put them on. Personally I never use gloves unless I have had my hands recently in an infected case. I am not adept in the handling of instruments with gloves on and frequently puncture them, thus liberating excretion which to my mind do much more harm than my clean hands which I keep clean by frequent dipping in salt solution. My hands are very hard and do not sweat. When all the rules from the sterilizer to the table have been observed religiously by the surgical nurse and the same by internes from the donning of their suits to the drawing on of their gloves, I believe we can safely say we have never had an infection in a previously clean case. These particulars might be enumerated:

For assistants: Clean white suits. Scrubbing hands in hot soap suds, five to ten minutes. Rinse in clear sterile water. Wipe with alcohol. Dry gloves put on with dry sterile towel. Head and face covered. Long sleeves, sterile gown.

For nurses: Scrubbed in same way. Gown to completely cover other clothes. Hair completely enveloped. Face protected. Gloves applied in same way as assistants.

Everything on instrument and dressing tables must be sterilized in regular way and nothing prepared after operation has begun.

Before closing I would like to enumerate some of the apparently unimportant thing which I have observed, which may have been the cause of infections.

Assistants frequently try to attend to other maters while getting ready for operation, and by so doing are careless in their preparation. Too much talking at operating table. Careless scrubbing and shaving of patient. Puncturing of gloves. Incomplete sterilization due to defects in sterilizer. Defects in gloves. Hasty preparation of instruemnts, called for but not ready during the operation.

When we consider that any one of these mistakes is liable to render all our care and precautions useless, it is not surprising that we should consider the choice of assistants and nurses of prime importance.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D., M. E., Lima, Ohio

STERILITY CAUSED BY THE X-RAY.

It is a well known fact among X-ray operators that the too-frequent or too prolonged exposure of the body to the emanations from an X-ray tube are productive of a condition of azoospermia. The early operators did not know this effect and therefore did not protect themselves against such an accident, consequently many of them, and most of them before they knew it were rendered sterile. Recently, however, this is provided against and there is no excuse for this condition, if the operator protects himself by means of opaque clothing or aprons, or surrounds the tube with an X-ray proof cover made from some flexible material or lead glass, or hides behind a glass or lead screen. In a recent article in the American Journal of Surgery by Dr. Q. W. Hunter of Louisville, Ky., on the subject "The Role of the Male in Infertilitas Matrimonii," closes his article with this statement:

"Experimentation by Albers-Schoenberg, Bergonie, Tribondeau, and others upon rabbits, guinea pigs and white rats demonstrated that sterility is produced by exposure to the X-rays, and Halberstaedter concludes that the ovaries are markedly more sensitive than the skin to the influence of the X-ray. The rays seem to produce a degeneration of the specific epithelial cells, though human spermatozoa in seminal fluid exposed for thirty minutes presented no demonstrable change in either form or motility. The X-rays are said to destroy the power of the testicles to elaborate potent spermatozoa, and that of the ovaries to produce ovules susceptible of fertilization, but it is undetermined whether or not this effect is permanent. Austin claims that the X-rays produce sterility in males and females with a facility and safety that can only be looked upon as an actual social danger to which it seems urgent to call the attention of the doctors.

"According to Brown and Osgood azoospermia is one of the more recent and most striking effects of the X-ray, but the amount of exposure required to produce this condition in a worker of average age and health is yet unknown. Whether it is a gradually progressive tendency, or due to the abrupt and intense action of the rays after a particuarly long seance, is likewise unknown. The prognosis of azoospermia from this cause can only be settled by years of observation. It is probable those working behind lead screens or using focusing tube shields will escape these

consequences. Some of those who have made X-ray work a specialty for the past few years are the subjects of total azoospermia; a smaller number having less experience show varying stages of oligozoospermia. In none of these cases was the patient conscious of any change in the potentia coeundi."

THE ULTRA-VIOLET RAY AS A BACTERICIDE.

The chemical or actinic rays of light commonly called the ultra-violet, because they are beyond the visible violet rays of the solar spectrum, besides having anaesthetic, analgesic, stimulant and reconstructive properties, also have a decided bactericidal action. This no doubt accounts for the good effect in the treatment of old sores, indolent ulcers and suppurative conditions, carbuncles, boils, abscesses, etc. These rays are obtained from the naked arc light most abundantly, and also to a lesser degree from the mercury vapor lamp and the common glass vacuum electrodes, usually employed in giving the high frequency treatments, from the coils of d'Arsonval, and Tesla, and the resonator of Oudin. Aside from the therapeutic uses the ultra-violet ray is of use in the arts and sciences as well as for commercial purposes, as according to a recent note in the Scientific American, the ultra-violet light has been employed to sterilize water on a large scale in France, in a plant required to deliver 261.5 cubic yards of water per twenty-four hours. The apparatus utilizes the copious emission of these short waves from a mercury-vapor lamp having a quartz tube. More than three-quarters of the rays coming from the special lamp are utilized, and sterilization to the point of leaving one germ to the cubic centimeter is accomplished by causing the water to traverse a zigzag path close to the lamp, thereby exposing it to the repeated action of the waves. The test showed that the process was highly efficient for municipal purposes. It is low in cost and simple in operaton, occupies little space, uses a very small amount of electric current, and imparts no taste to the water, which remains fresh, since it retains its dissolved air and has not been heated in any way. For municipal water service the apparatus may be applied to the outside of the ordinary main, the radiations being transmitted through quartz windows in the main.

DEPT. OF GENITO-URINARY DISEASES

Conducted by
NELSON F. McCLINTON, M. D.
Chicago, Ill.

Blood in the urine microscopical or macroscopical is of what significance?

Certainly it is not an uncommon occurrence in the general practitioners practice and much more common in that of the urological specialist. The presence of blood in the urine should always warrant a complete and comprehensive investigation. As it is a valuable index and warning of the onset of a condition which in a large per cent is serious but which by early recognition may be satisfactorily combated.

It is not the purpose of this paper to deal with haematuria from the entire urinary tract or consider the methods of diagnosis of same, all of which will be considered in later papers, at present the cause of haematuria arising from the kidneys alone, will be considered, the following being the causes:

1. Ingestion of drugs.
2. Acute and chronic Brights.
3. Heart diseases.
4. Injury.
5. Renal calculi.
6. Syphilis.

7. Tuberculosis.

8. Neoplasms.

9. And a few rarer conditions as villous growths of the renal pelvis, parasites, haemophilia, etc.

1. The haematuria following ingestion of certain drugs is too well known to deserve consideration, at the same time it must not be overlooked that certain articles of diet in gouty persons or those having a special idiosyncracy may cause haematuria.

2. In acute Bright's disease blood may be present in the urine from minute to alarming quantities, and the fact must not be overlooked that the same may be said in reference to the chronic granular kidney. These cases are recognized by the presence of casts to which may be added cardiac and retinal changes. (Fenwick.)

3. Haematuria is sometimes present in cardiac affections which can only be accounted for as due to backward pressure.

4. Haematuria following an injury should be too self evident to deserve consideration.

5. Renal calculus. Authorities differ as to the question whether blood is always present in microscopical amounts in renal calculus. It would be safe to state that blood is always present at some time in the life history of a calculus and is always present following an attack of renal colic, the only exception being when the ureter on the affected side is completely blocked and only the opposite side is excreting urine, as a rule other factors are present making the cause evident in haematuria, stone should always be considered.

6. Syphilis. There is some dispute as to whether involvement of the kidneys in this condition is not a chronic nephritis. Any haematuria following this condition, undoubtedly comes under this classification, however it is well known that gummata may effect one kidney and produce haematuria so the presence of syphilis having been proved this fact should be considered before advising surgical measures and antisyphilitic treatment given a trial.

7. Tuberculosis. In no other condition is it so important to recognize blood in the urine, blood corpuscles will very seldom be found absent in tubercular affections of the kidney. Macroscopic haemorrhages are of rare occurrence.

In case where the tubercular foci have not broken through into the pelvis of the kidney or where the ureter is obstructed, there will be no blood and this factor must be considered in making a diagnosis.

However with blood in the urine always consider tuberculosis.

8. Malignant diseases namely carcinoma and sarcoma. It is safe to say that haematuria at some time is always present but it may be intermittent, slight or profuse. Taken altogether the percentage of cases in which haematuria is present is so large that for practical purposes, it is safe to say it is always present sometime during the life history of the growth.

9. As stated above there are a few other rare conditions that cause haematuria, but being so infrequent, hardly deserve consideration.

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You are publishing a journal that has been the source of great help to me.

Yours truly,

Dr. C. Hill.

Frankfort, Ind.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.,
Janesville, Wis.

THE OPERATIVE TREATMENT OF GLAUCOMA.

Glaucoma is one of the serious eye diseases, which demands the best judgment and skill of the ophthalmologist. At the last meeting of the British Medical Association, Priestley Smith, F. R. C. S., Professor of Ophthalmology, Birmingham University, delivered a most excellent paper on glaucoma. We gather the following from the paper as published in the British Medical Journal:

In operating for glaucoma ought we at the present time to adhere to the time-honored iridectomy of Von Graefe or to adopt one or other of the substitutes lately introduced? If the latter, which is it to be? Or ought we to employ sometimes one method, sometimes another, according to the type and stage of the glaucoma? These questions press for answer. Each one of us, whatever his own opinion is wishing to know the experience of others.

The object of every glaucoma operation is to establish filtration of fluid from the eye. If we fail in that we fail entirely. Success may come in more ways than one. Normal filtration may be restored; abnormal filtration may be established. Probably the two may be combined. The only region in which filtration of any kind can be permanently established is the region of normal filtration. We can slacken the eye for a few days by tapping the vitreous through the sclera, and we can keep up a little leakage here for a week or more by palpation, but we cannot establish permanent filtration in this region. Even trephining the sclera will not do it. Argyll Robertson tried it many years ago. Again, we can slacken the eye temporarily by tapping the aqueous chamber through the clear cornea, but unless the filtration angle is restored thereby no permanent drainage follows. We must open the aqueous chamber near its periphery.

What are the relations of the parts with which the operator has to deal? I have the healthy eye of a woman of 30. It was removed during life for a tumour of the optic nerve. It happens to represent the type of eye which in later life is especially liable to primary glaucoma —that is, it is small in dimensions and hypermetropic in build, with a prominent ciliary body. The operator's only landmark is the margin of the clear cornea—the limbus. In this eye the limbus bears the following relation to the parts beneath a line falling on the limbus vertically to the surface, and passing through the cornea, enters the chamber about 1 mm. from Schlemm's canal, and more than 1 mm. from the periphery of the chamber. A line parallel with this, entering 1 mm. outside the limbus, passes through Schlemm's canal, through the chamber very near to its periphery, through the root or pedicle of the iris, and through the ciliary process at some distance from its apex. But these relations vary. The cornea is often smaller vertically than horizontally, whereas the anterior chamber, like the limbus is usually circular. In such eyes the limbus overhangs the filtration angle more above and below than at the sides.

The lens also must be taken into account, for it is responsible for certain disasters. Where does its margin lie in relation to the limbus? The diameter of the lens in elderly persons is usually

from 9 to 10 mm., that of the clear cornea usually from 11 to 12 mm. horizontally, so that a line passing backwards from the limbus parallel with the axis of the eye would miss the edge of the lens, at the outer or inner side, by about 1mm. But in some glaucoma eyes the vertical diameter of the cornea is hardly greater than the diameter of the lens, so that the limbus at its upper part, where we usually operate, may lie just over the lens margin. Again, the tips of the ciliary processes reach further inwards in some eyes than in others. They may reach the lens margin, they may overlap in front, they may be widely separated from it. In the two examples shown the lenses have exactly the same diameter, namely 10 mm. The difference depends on the size of the globes; the first was exceptionally large, the second exceptionally small.

Clearly the operator who hopes to place his incision in a constant relation to the parts within will be disappointed. It cannot be done.

Moreover, in glaucoma, especially in acute congestive glaucoma, the relations are abnormal. I cannot show the filtration angle in the early stage of primary acute glaucoma. No one has ever seen it, and no one ever will. We do not excise these eyes, we usually save them, and when we fail we still spoil them for the pathologist. Even if some enthusiast, stricken with acute glaucoma, were to offer his eye in the cause of science, and we were willing to take it from him, we would still be baffled. The removal of the eye, and still more the opening of it, would alter the changes which we want to see. But I can show something nearly like it in an eye removed on the twenty-third day of an acute glaucoma. The glaucoma was intense, the eye was blind, there was suspicion of previous hemorrhage. It shows conditions not very different from those which confront the operator in the early stages of typical acute glaucoma. An incision for irridectomy, whether made from without by the lance knife, or from within by the Graefe knife, must cut the inner surface of the cornea at some distance from the angle of the chamber and the root of the iris. Only by traction and tearing is it possible to get the iris away; a mere cutting of the iris without tearing will leave a considerable stump. To add to the difficulty the limbus may be hidden by chemosis.

Yet in spite of the difficulties, iridectomy in the early stage of acute glaucoma often gives an excellent result. In a typically successful case the wound, after leaking freely for some days, gradually closes. The anterior chamber re-forms. Tension, after oscillating for a time, becomes normal and remains so. Ultimately the scar becomes flat, solid, and nearly invisible. Except for the coloboma the eye looks normal. The glaucoma is cured and there are no relapses.

In such cases the filtration angle recovers its potency. Fuchs had the rare opportunity of examining two such eyes. Both were irictomized for early acute glaucoma. Both made a permanent recovery. Seven years later the woman died of penumonia, and Fuchs obtained the eyes. In both the scar was solid, and the filtration angle was open all the way round. The open angle explains the cure of the attack. But what about the freedom from relapse? That apparently depends on the coloboma. We know that the intact iris, by its pressure against the lens, slightly resists the movement of the aqueous from the posterior to the anterior chamber. In a shallow-chambered eye a very small accumulation in the posterior chamber, that is, a small displacement of the iris may endanger the filtration angle. A peripheral coloboma obviates such displacement of the iris by ensuring an unhindered access to the filtration angle.

I have spoken of a typical success.

Now for the opposite, a typical failure. In trying to cure the glaucoma we make it worse. In attempting to unlock the door we double-lock it. Then we call the glaucoma "malignant"—a convenient name, for it suggests something inevitable, but it does not help the patient. What happens in these malignant cases? From the first there is no proper leakage from the wound. The pad, when we remove it is dry instead of soaked with aqueous. The anterior chamber is abolished. The eye is soon as hard as before, or harder. The lens, driven forward by pressure from behind, blocks the outlet, like the glass ball in a soda water bottle. Fortunately the disaster is rare. Is it inevitable? For many years I have habitually made a scleral puncture immediately before the iriectomy, so as to slacken the eye a little before passing the knife into the anterior chamber. This being done, the lens is not pressed forward against the knife as the aqueous escapes; it is not jammed against the cornea afterwards, and malignant glaucoma does not occur. I have seen no sepsis and no noteworthy haemorrhage arising from it. I have found no greater difficulty in making the subsequent incision. Certain details must be observed. Slide the conjunctiva to one side; use a Graefe knife straight out of boiling water; puncture near the horizontal meridian, on the outer side, at 5 or 6 mm. from the limbus—that is, about over the ora serrata—the back of the knife towards the cornea, the point directed towards the center of globe; rotate the knife through a quarter circle before beginning to withdraw it. The harder the eye and the shallower the anterior chamber, the greater the need for a sclral puncture. It lessens the risks.

But iridectomy may fail to restore the normal outlet and yet cure the glaucoma. It may establish an artificial outlet. Probably it does so in many of the successful cases. I can show you an extreme example. A subacute glaucoma was cut short by iridectomy; the eye had useful vision for eighteen years, then it was lost by inflammation without return of tension. The conjunctiva over the cicatrix was cystoid. On section the wound showed imperfect union. At one end there was a wide gap lined by iris, at the other end smaller channels, also lined by iris. These openings led into the subconjunctival space. In this case the aqueous had escaped for many years through abnormal channels.

What is the condition of the filtration angle in chronic glaucoma? In the late stage, when we have to remove the eye, we find closure with adhesion. In the earlier stages there can be little, if any, closure, for the pupil remains active. Probably there is a gradual narrowing. Perhaps there is a primary sclerosis of the cribriform ligament, as Thomson Henderson maintains. I think we do not yet know for certain. What we do know is that iridectomy, though easier to execute, is less trustworthy than in acute glaucoma.

In some cases of chronic glaucoma iridectomy lowers the tension and arrests progress for many eyars, perhaps permanently. In others the tension soon returns to its previous height and the glaucoma progresses. How are these different results to be explained? The successful cases commonly show signs of filtration through the scar. The successful cases commonly do not. The two eyes of one patient sometimes demonstrate the difference. The evidence of filtration is to be found in the conjunctiva over the scar. It is raised or or thickened as though oedematus. It pits on pressure with a probe or pencil. I will not try to distinguish between a fistula and a filtering cicatrix. Suffice it to say that success commonly depends on incomplete consolidation of the scar, and that the amount of non-union varies greatly. We want enough and not too much.

The principle is not new. De Wicker asserted it many years ago. He and many others have aimed at making filtration scars. But methods which secure them with something like certainty without drainage or disfigurement are new within the last few years. We have them now, and they are of immense value. Whom have we to thank? Pre-eminently Herbert and La Grange, Elliot and Fergus. To whom we shall ultimately erect the biggest statue—I do not know. My own experience relates chiefly to Herbert's wedge operation, and the cases were chiefly of chronic glaucoma. Mr. Allport was the operator. The results were decidedly better than those usually obtained by the orthodox iridectomy. I will not attempt to discuss the relative value of the several newer operations, but will conclude by asking for information on certain points.

In early acute glaucoma iridectomy is difficult, but commonly gives a good result, especially, I think, if guarded by a scleral puncture. Is any method better? Trephining, no doubt, is easier; it is located more easily and precisely. Instead of opening the chamber obliquely it goes vertically down upon the iris root. But close behind the iris root are the turgid ciliary processes. Does this involve a special risk? In absolute glaucoma, when the filtration angle is closed by peripheral adhesion of the iris, iridectomy is commonly impossible or useless. Will any operation safely and permanently reduce the tension in such cases? Here we have to think of degenerated vessels and morbid exudations as well as of a blocked filtration angle. In my opinion the right rule hitherto has been to leave such eyes alone or to remove them. Is not that still the best course on the whole? Lastly, would not a scleral puncture, as the first step, sometimes diminish the risks of these newer operations as it does of the older?

THE RELATION OF CORNEAL AND ABSOLUTE ASTIGMATISM.

John Rowan of Glascow has made some interesting observations on this subject. He says in the British Medical Journal:

The object of this communication is to ascertain the relation of corneal astigmatism, as worked out by retinoscopy, the retinoscopy being done either under atropine, or in the case of older patients, under homatropine and cocaine. All the observations have been made by myself, the instrument used being Javal and Schlotz's astigmometer (the same instrument being always used), and the retinoscopy having been worked out always with a plane mirror, the shadows being reversed in every case.

The 500 cases have not been selected in any way, but have been taken consecutively from my private journals; in this way the possibility of individual difference has been excluded. The corneal astigmatism and the absolute astigmatism were worked out quite independently of each other, in many cases the corneal astigmatism was observed one day and the absolute astigmatism worked out on the return of the patient a few days later, in this way excluding the possibility of any tendency one might naturally have to make one operation confirm the other. The cases have been limited to 500, a number sufficiently large, at any rate, to warrant some generalization from, and a convenient figure. The notes kept of the different cases were in the ordinary course of practice without any intention of using them in this way.

These 500 cases give 1000 eyes, and the observations have been made with the following results:

Out of the 1000 eyes examined the absolute astigmatism and the corneal astigmatism are the same in 475 cases —that is, 47.5 per cent.; 230 were hypermetropic, 353 showed compound hy-

permetropic astigmatism, 89 were myopic, 190 showed compound myopic astigmatism, and 138 mixed astigmatism. The divisions into the different classes of hypermetropia, hypermetropic astigmatism, myopia, myopic astigmatism and mixed astigmatism, were made by the actual figures found by retinoscopy.

In each case the lens which first turned the shadows was the one noted, so that it might be said in every case there was an over correction. In the ordinary course many of those eyes were practically emmetropic or at least emmetropic in one meridian.

It is only fair to bear in mind that many cases were fitted with glasses without having recourse to retinoscopy, but in this note the results are built up from cases in which it was thought advisable to dilate the pupils.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

THE CARE OF NORMAL LABOR.

The proper care of the parturient woman in her home requires certain previous preparations on the part of herself and of the physician. Although an increasing proportion of obstetric cases is being conducted in hospitals, especially in large cities, yet still and probably always the vast majority will be conducted at the homes of the patients, where the attendant must put up with all the inconveniences thereto inseparable. The preparations of chief importance are those intended to insure aseptic conduct of labor. These will be considered in a separate article.

A large number of things are desirable for the patient to have in readiness for use in the lying-in room and will be provided by those of suffiicent means, but certain things are almost or quite necessary and must be provided for by either the patient or by the doctor. The following should be provided by the patient and should be in readiness some time before the expected termination of pregnancy, even by those of moderate resources. There should be enough basins, clean towels and clean sheets. In modern city flats, with all their lavatories and bath rooms, there is often a dearth of basins or suitable vessels for the use of the obstetrician, to hold solutions, swabs, dressings, etc. Sterile water, both hot and cold, should be provided, in stopered bottles or in teaketles plugged with cotton. Green soap, antiseptic (bichloride) tablets, a new fountain syringe, and a bed-pan are needed. Alcohol, saturated solution of boric acid, everal yards of sterile gauze and a pound of sterile absorbent cotton should be provided for the making of swabs and vulvar pads. If possible thes wabs and pads should be cut beforehand and sterilized by the nurse, otherwise they may be cut as needed afterwards. One or two rubber sheets or oil-cloth sheets are needed for the making of the lying-in bed. A large pan or other suitable vessel will be needed to catch discharges and refuse and to protect the floor. The best bed for obstetric work is a narrow high single one of metal. Unfortunately we usually must be content to use the bed which happens to be in the confinement room. An abomination is the folding bed with board sides.

The obstetrician must be provided with scissors and ligature material for the cord; with instruments for the repair of the perineum; with steriel cotton and gauze; with a sterile rubber catheter; a sterile gown in container;

rubber gloves; a pelvimeter, a stethecope and a hypodermic syringe; a reliable preparation of ergot; chloroform; stimulants; a nail brush. We will omit mention of instruments and apparatus for operative obstetrics.

It is advisable to instruct the woman to have the obstetrician notified as soon after labor has actually begun, that is, as soon as the regular ryhtmical pains have set in. If there is to be a nurse in the case, she should be sent for as early as possible. If the doctor is sure that a competent nurse is on the ground he can take from her reports of the situation with greater confidence than from the patient or her friends. It is well to make a visit as soon as convenient after being notified that labor is in progress. One can then observe, question, even examine, and ascertain something as to the progress of the labor and can then arrange his activities for the day accordingly. If the doctor is only summoned when the labor is well on or even when the head is on the perineum, he may not be found in time or may not be able to reach the patient in time to be of service. In any event he will be much more incommoded than if he had opportunity to plan his movements with ample warning.

Has labor really begun is the first question for the accoucheur to ask himself and to answer if he can. In primiparae the presenting part enters the pelvis two or three weeks before labor, in multiparae several days before. If pains are regular and occurring every five to ten minutes and if the hand placed on the fundus feels good contractions therewith, it is probable that labor is actually begun. If there is a "show" of bloody fluid due to the separation of the decidua in the lower uterine segment, the evidence is corroborated. If nausea occurs occasionally, it is probable that the cervical canal is dilating. Nevertheless it must be remembered that all these signs and also rupture of the bag of waters may occur and still the labor quiet down and not be resumed for hours, days or even weeks. Nobody can predict that pains will continue uninterruptedly any more than he can foretell how long the labor will last. Almost the first question put to the doctor by the patient is how long before the baby will come. Nobody yet has been able to answer it satisfactorily and truthfully. It is like the question of rain to the weather bureau. It is certain for instance that rain will come within a number of hours, but it cannot be foretold whether one can safely leave his umbrella at home when he attends church.

If possible external palpation should have been made a month or so before labor and the pelvis should have been measured at that time. At the onset of labor external examination will tell the experienced obstetrician much as to the stage of labor. The head will be felt high in the inlet or low in the pelvic canal. The presentation and position can be accurately estimated as well by external as by internal examination in most instances, unless interfered with by fat abdominal walls, excessive irritability or nervousness or rigid abdominal muscles. On account of the danger from infection the internal examination should be made as seldom as possible, best not at all during labor. The presentation and the condition of vagina, vulva, cervix and the roominess of the pelvis will have been ascertained at the examination made several weeks before labor. At that time one can make vaginal examination with impunity because the vaginal canal of the pregnant woman will cleanse itself in a few hours. The more experienced one becomes the more will he dipense with internal examination in labor. On the other hand one should not allow himelf to lack certainty as to the diagnosis

of position or as to the condition of the progress of labor for want of a vaginal examination.

The woman should have her bath as early as possible in the beginning of labor. As Strogonoff of St. Petersburg has indicated, the ordinary tub bath offers danger of infection of the genitals through the vulva, which may be opened, especially in multiparae, during the movements while in the tub. As he says, in the tub one bathes in a dilute solution of feces and other filth washed from the rest of the body. It is better to pour the bath water on the body from the shoulders down or to use the shower ring. Of course an abundance of soap must be used, especially about the pubes, external genitals, anus and buttocks. An enema of warm water or soapsuds should be given freely in the first stage. It is not well to administer an internal cathartic because one cannot time its action, which may take place at a most inopportune moment.

The patient may reuire nourishment during a prolonged first stage. The food should be liquid or very soft and easily digested. There must be no chance for the vomiting of large masses which may be inhaled into the air passages and cause asphyxiation. During the dilatation period there is naturally more or less vomiting and the anesthetic which the possible obstetric operative procedures may require later in the labor may induce more. As a rule during the first stage the patient may be permitted to assume any attitude or posture which pleases her or which she may think is least uncomfortable. Postural correction of malpositions is only posible while the presenting part is still movable. Therefore the necessity for such postural correction makes an exception to this statement. As a rule the woman may be allowed to walk about, to sit or recline as she pleases.

It is not necessary, indeed, it is not desirable for the obstetrician to remain with the patient throughout the whole labor. The constant complaints of the patient and the constant prayers of herself and her friends for "doctor to do something to help her" will wear upon his nerves and will tend to unfit him for the real work which he may be called upon to perform later. If the patient is a primipara it will usually be several hours after the first visit before it will be necessary to make a second. This statement is made with the assumption that the attendant is assured by his first examination that the position is a normal occiput anterior, that the pelvis is of normal size, that the child is not gigantic, that the hearts of mother and child are normal, that there is no untoward sign or symptom to cause uneasiness or to believe that the case is otherwise than absolutely normal. In these days of telephones the physician may often attend to much of his ordinary business between the necessary visits to his obstetric patient. He is extremely fortunate in this regard if he has a competent and experienced nurse in charge capable of observing the progress of the labor in his absence. The duration of the first stage in primiparae will average from eight to sixteen hours. In multiparae there is much more chance of haste in the progress of the first stage, although even in such cases, the first stage is relatively longer on the average than the second.

When the obstetrician makes his visits he should note the temperature, pulse and respiration of the woman and should listen for the fetal heart tones. He should palpate the abdomen to observe how far down the presenting part is descending and how strong are the uterine contractions. He should remain each time long enough to study several pains, observing as to their frequency, strength and duration. Meddling should be absolutely tabooed. Nothing should be done in the way of interference unless there is scientific indication for it. It is a dangerous practice

to attempt to "help" the woman by introducing the hand into the vagina or by dilating the os. It is true that one can stimulate pains in this way but at an immense cost of danger of infection. Women whose accoucheurs "help" them in this meddlesome manner are the ones who have "milk fever" on the third day, who have "malarial" and "typhoid" symptoms during the puerperium, who do not get "strong" very soon after confinement and who suffer in various ways from various kinds of morbidity due to infection.

It is bad to allow too many visitors during any stage of the labor or indeed of the puerperium. As a matter of fact, the nurse and the doctor are all that are needed. A sensible or a phlegmatic husband may be made useful in many ways but the mother of the patient is usually the worst person to have in the lying-in room. The doctor should be the captain of the ship and captains usually hate to have too many "owners" on board with them.

It should be seen that the bladder is emptied at regular intervals of six to eight hours because the overfilled bladder is sometimes a cause of delay in the descent of the head and consequently in the dilation of the os. During the first stage the woman can safely sit up on a vessel or on the closet hopper to void both urine and feces. Since the overfilled bladded will often overflow in constant small driblets it may sometimes be necessary to make a vaginal examination to determine whether that organ is distended. It is, however, under strict aseptic precautions, not more dangerous to pass a catheter.

Anesthesia is rarely indicately during the stage of dilation. In some instances, with extremely nervous women who experience extreme subjective pain, an anesthetic may be permitted during the first stage. It is best to give it in the form of chloroform dropped on a folded handkerchief or mask and held by the patient to her own nose, during the acme of a pain. Sometimes, when there has been a long first stage with aggravating pains which do not appear to be accomplishing much and which are exhausting the woman unduly, chloroform may be given during the pains for half an hour or longer so that she may have a rest. She will often emerge from the anesthetic, at the end of that period, refreshed and strengthened and with effective uterine contraction. Chloroform will act to dilate the os as well as chloral and the dose can be more efficiently regulated. Other drugs for the purpose of aiding dilation are of little or no value. Drugs in a natural process like labor are seldom in place. If the case is a normal one, the less drugs and the less pottering the better for all concerned.

(To be Continued.)

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Janesville, Wis.

Measles is a disease that receives much less attention from the laity and even from the doctors often, than it deserves and should have. A study of the comparative mortality rate between diphtheria, scarlatina, pertussis, and rubeola, will be sufficient to prove this statement and emphasize its truth as it applies to the disease itself without reference to its complications and sequelae. All authorities agree that very many cases have attacks of pneumonia as either a complication or a sequel. Tuberculosis can often be traced to a neglected case of this disease.

Special danger is confronted in cases of measles, because of the unusually long prodromal stage, which often deceives those caring for a probable case, because of the subsidence of the very earliest symptoms, apparently, to the

ordinary observer, to make their appearance again several days later with redoubled force.

Another very serious danger to the community is the almost universal failure to observe the laws, requiring that all cases of the disease be quarantined, which exists in most of the states. It is a very erroneous idea that prevails among people, that it is advisable or necessary that all children have the disease, hence the indifference that is shown in the matter of contagion. A safer, much better and saner plan is to avail ones self of all of the protection obtainable and escape having this or any other disease, if possible. The complications and sequalae that accompany and follow the disease are often dangerous, of both the acute and chronic types.

Remembering that the disease attacks the mucous membrane of the mouth, throat, nose and entire respiratory tract, as well as the outer envelope of the body, there is certain to be, at least a subacute bronchitis and very commonly, especially in neglected cases, pneumonia. It is well known that the eyes are invaded and many cases of eye trouble are directly traceable to an attack of measles. In many cases the intense congestion and inflammation of the skin causes a complication, to be expected in such conditions, involving the kidneys, because of the increased work required of them and giving rise to diseased conditions of those organs of a more or less serious degree. Again, desquamation, leaves the skin in a very sensitive state and greatly increases the dangers arising from this condition and adds to the work of the excretory organs and to the liability of their involvement and to severe inflammation attacking them, due to the surface congestion and the increased blood pressure in the circulation of internal organs.

That it may not be necessary for our readers to look up statistics of the comparative mortality of diseases previously referred to, they are stated in April number of this journal, page 128. Please note the slight difference in the mortality due to this disease and that of others with which it it is compared of which everyone has a very wholesome fear. We deem it to be our plain duty to insist on seeing all cases referred to us, supposed to have the disease and carefully advise as to care and treatment and warn of the necessity of giving close attention to a probable case, during the long prodromal stage and especially during the convalescent period as well as to lend our assistance toward the establishment of quarantine in every instance, in obedience to the mandate of the law, rather than to be justly chargeable with a neglect that may be the cause of the death of some one or more patients, who may have contracted the disease, while in attendance at school or when present in some public place, where they were unnecessarily and illegally exposed to the contagion because of failure to report cases, or perhaps of the health officer to properly enforce quarantine regulations.

I have known of several instances where the death of a child has occurred in just such cases.

There is undoubtedly no liability resting on the doctor, when the people have failed to call a physician, except where the M. D. has followed the bad practice, that has been so prevalent in the past, of cheapening the danger, by telling people that no special advice or help from a doctor is needed and that the disease is no worse than a bad cold, etc.

Modern medicine should not minimize the danger in any real ailment, especially of an infectious character, but insist on having an opportunity to advise their patrons and to promptly discover and prescribe for any threatening complications. After a careful personal inspection of all departures

from a condition of health, we can at least teach people depending on us for advice, how to apply the principles of prophylaxis and good nursing, to even apparently trivial conditions, particularly in children. Never forgetting to inspect the throat in all examinations of children who are indisposed and making the examination thorough and complete in every particular.

An early, even unnecessary visit, is better for all concerned than many later ones. Very small doses of aconite and belladonae combined together have been our dependence to hasten the appearance of the eruption and to help to control the fever and the surface congestion. The accompanying cough usually needs attention and ipecac has served our purpose here better than any other single remedy and seems particularly applicable because of the pathology of the bronchial mucous membrane. The photophobia nearly always present clearly indicates the use of a darkened room while the eyes are sensitive to the light. Other conditions and complications to be prescribed for as met and symptoms indicate.

BACTERIN THERAPY.

Bacterin therapy is long past the experimental stage, and the immunizing effect of typho-bacterin, for instance, is thoroughly established, the results from its use being sufficient evidence of the worth of this method of controlling the spread of typhoid fever. Remarkable results likewise have followed the use of cholera-bacterin and it is hoped that equally good results will follow the use of meningo-bacterin in controlling epidemics of cerebrospinal meningitis. While immunization with meningo-bacterin has thus far been used in relatively few cases it is entirely reasonable to believe that it will prove a most valuable aid in the suppression of epidemics of cerebro-spinal meningitis.

Like the other bacterins meningo-bacterin is a suspension of the killed bacteria in normal saline solution (0.85 per cent.) The cocci are grown upon a serum agar for about 24 hours, then washed off and suspended in salt solution. They are counted by Wright's method to determine the number of cocci in one cubic centimeter of the suspension, then killed by heating to 60° C. for one-half hour. After dilution of the thick suspension with normal salt solution (0.85 per cent.) so that the two strengths are obtained, the now completed bacterin is subjected to rigid aerobic and anaerobic tests to assure the absence of live germs of spores. Guinea-pigs are also injected to be certain that there are no harmful substances in the bacterin. Trikresol (0.25 per cent.) is used as the preservative.

Meningo-bacterin is polyvalent, i. e., a number of different strains of meningococci are used.

DIRECTIONS.

The usual site for inoculation is the arm at about the insertion of the deltoid muscle. The dose is given subcutaneously and not into the muscle nor into the skin. An area about the size of a five-cent piece is painted with tincture of iodine. The syringe needle is plunged through this area. No after treatment is necessary.

The complete immunization treatment consists of three doses given at intervals of from five to ten days. The first dose is 500 million, the second dose 1000 million, and the third dose 1000 million.

For children smaller doses should be used according to weight. It has been suggested that the unit of body-weight for a full dose be considered 150 pounds.

For immunizing one person there

(Continued on Page 189)

QUERIES AND ANSWERS

QUERY.

By J. P. Brandon, M. D., Essex, Mo.

I would like to hear through the Recorder from those having had experience in the operation of Vasectomy, or Vasotomy, ligating the Vas Deferens, giving results. Does it decrease the sexual appetite or impair the sexual organs in any way? Is it advisable in certain classes of patients? Would like to hear from anyone, who has performed the operation and has watched results.

ANSWERS TO QUERIES.

Query No. 2, February number. Treatment of infected wounds. Wounds due to mico-organisms are commonly termed infected wounds. The treatment may be summed up in five words, namely: incision, evacuation, iodine, drainage and the wet dressing. Poisoned wounds due to other toxic substances also require prompt incision and drainage, the wound should be shut off from the general circulation by means of ligature and bleeding is to be encouraged to prevent absorption of toxic material. Snake bites are best treated by excision of the wound and permanganate potash injected in and around the wound. A nutritious diet and tonics in full doses should be given in all cases of poisoned wounds.

Query No. 3 in February number. My method of treating open wounds is to prevent infection is first clean the wound, shave the surrounding area if it is airy, scrub the parts or surface about the wound with ethereal green or castile soap. Then wash with water, scrub with alcohol and then with bichloride sol. 1-1000. Usually wounds are infected and must be well washed with antiseptic solutions.

Drainage, closure and dressing. Superficial wounds require no special drainage as some wound fluid will find exit between the stitches the other absorbed. Good drainage for deep wounds may be made of ordinary iodoform gauze strips. I would after getting proper sutured, cleansed and drainage then apply the Pound Pix Creosol. Iodoform or Powd. Campho Phenique as dry dressing then apply iodoform gauze, next the bichloride gauze, then light layer of cotton, then nice bandage. On about 3rd day I would redress wound, give it about same washing but not scrub so briskly and then use the peroxide hydrogen in addition. If your old "puncture" wounds do not properly heal wash well with bichloride and then mop them out with two of alcohol and one of iodine which will stimulate granulation.

In the March Recorder, page 101, you ask about the use of Cacodylate of Sodium in Syphilis. I am getting splendid results in using it together with the routine treatment. In the secondary stage the manifestations fade away much faster than formerly when I used the regular syphilis remedies.

I use P. D.'s three grain sterilized solution in ampouls with ordinary hypodermic syringe selecting preferably the buttocks and give a dose every third day for eight or ten doses, then gradually extending the intervals between doses. I have had haematuria in two cases in which I pushed the Cacodylate in order to get rapid results and I believe the kidney distress was due to the cacodydate. It is a splendid adjunct to the treatmen enabling us to get better results with less mercury and iodides.
regular treatment, enabling us to get better results with less mercury and iodides.

W. L. Moore.

MISCELLANEOUS

PRINCIPLES OF SERUM THERAPY.

By Claude P. Fordyce, A. B., B. Sc., M. D., Stanley, Neb.

In serum therapy we have the means of raising the antibacterial power of the blood with respect to any invading microbe; and it is out of all comparison the most valuable asset in medicine.

More than twenty years have elapsed since Koch demonstrated the microbic factor in disease and revealed the possibilities of this new therapy which has so wonderfully interested the original research laboratories of the world. As a result the literature of today abounds in countless reports of new experiments, new theories and a meagre lot of new facts worked out by the leading scientists of almost every civilized nation.

It would appear that 'ere this many fixed principles would be established, but the fact remains that after all these years of unlimited thought and toil almost the entire system of serum therapy is conducted along empirical lines today.

To be clearly defined are the underlying principles of immunity, fixed methods of production and standardization of most of the biologic products, —their physiological action, dosage and exact therapeutic effect.

Under ordinary circumstances every living animal is constantly exposed to possible sources of infection. Bacteria are present everywhere. It is obvious that there is some potent natural means of resisting the attack of these organisms and that it is only when these means break down or are insufficient that infection occurs. This power of resisting the invasion of micro-organisms is termed 'Immunity' and is the exact opposite of susceptibility. Immunity is a variable condition, varying not only with the individual but with the bacterium. Natural immunity occurs for a shorter or greater length of time after a person has had an infection.

Acquired immunity is of two kinds, active and passive. Active immunity may result from one of four causes: First, by a previous attack of the disease in its natural form. Second, by the artificial inoculation of the virus of a bacterium, as for an example in small-pox—the lymph is a culture of the small-pox organism in a state of diminished virulence. Thirdly, active imunity is produced by inoculation of non-fatal doses of the bacterium. This method is used in plague and typhoid fever. The cultures are killed by heat and small doses injected subcutaneously. Fourthly, an active immunity is established by the injection of the extracellular toxins of the causative organism. This method is not used in man but it is of the utmost value in immunizing the lower animals for the preparation of curative sera, especially for diphtheria and tetanus. The horse is chosen for this purpose because it is easy to handle and yields a large amount of serum at each bleeding. The principle of this method is simple. A small quantity of the toxin which has been filtered to remove living bacteria, is injected subcutaneously. It causes local inflammation, fever and malaise but when these have quite subsided another and slightly larger dose of the toxin can be tolerated. In this way the dose is increased until the animal is so resistant that the injection of enormous doses of most powerful toxin will produce but slight and tran-

sient ill effects. In actual practice this method is usually modified, the earlier stages being considerably shortened by the injection of a mixture of toxin and antitoxin or by the use of peculiar forms of toxin of diminished activity.

It will be noticed that in all these methods the animal which later becomes immune combats with and overcomes the organism or the action of its toxin is always rendered more or less ill by the process.

For this reason it is termed an active immunity, that is, it is acquired by the animal's own active combat with and supremacy over the disease.

Passive immunity is that which is conferred on an animal without effort on its part, by the injection of serum from an animal that has already acquired an active immunity, against the disease in question. For example, if some of the serum from a horse which has been actively immunized against tetanus is injected into a second horse or other animal, the latter will also become immune to the tetanus bacillus or to its toxin. The second animal is not rendered ill by the injection and is merely the passive recipient of protective substances which have been elaborated by the first. Passive immunity cannot be bestowed by the injection of serum from an animal which is naturally immune. The lower animals for example are immune to syphilis but their sera have no curative or prophylactic action in man. The micro-organisms of diphtheria and tetanus which produce extracellular toxins show the greatest possibility of use in protection and cure.

Active and passive immunity also differ in other respects: Passive immunity is produced immediately after the serum is injected, whereas active immunity is only developed slowly after the injection of the toxin or of the living or dead culture; in general a week at least must elapse before the full degree of immunity is produced Again passive immunity lasts a comparatively short time, unless the dose is repeated. The duration of immunity by prophylactic injections of antidiphtheritic serum is about two months. Active immunity is usually much more lasting, though its duration varies greatly in different cases.

In most cases of syphilis and smallpox it is permanent, second attacks being rare, whereas in pneumonia it is of very short duration.

It has been found that leucocytes from a normal animal had no power in injecting virulent pneumococci but that they acquired this power when mixed with the serum of an animal which had been immunized to pneumococci. It is thus evident that immune sera have the power of aiding the action of the leucocytes by virtue of containing an anti-body which unites with the bacteria and renders them vulnerable. Anti-bodies are found in the blood serum and act in various ways: the bacteriolysins destroy the bacteria: the antitoxins neutralize the bacterial toxins: the agglutinins bring about a clumping of the organisms, as for example in the Widal Test in typhoid fever: and last but not least the opsonins act on the bacteria in such a way that phagocytosis is accelerated.

When we turn to the theories which have been promulgated they explain the facts outlined above, we must bear in mind that there are two groups of phenomena which require elucidation: the immunity to the bacteria and immunity to their toxins.

In explaining bacterial immunity Buchner attributes the quality to the presence of antibodies, chemical in nature, called Alexins which have either a bacteriacidal action or modifying their activity or neutralize and counteract the toxins.

Metchinkoff in his well known theory of phagocytosis ascribes bacterial immunity to the power of the white blood corpuscles to injest bacteria. Phago-

cytosis is almost universally present in infectious diseases and the more immune the subject of the disease the greater is the affinity shown by the phagocytes for the bacteria against which the immunity exists. It seems probable however, that phagocytosis is to a certain extent a secondary process induced by the action of a chemical body which is normally present in the blood serum. This body is known as Opsinin and has been thought by Wright of London to prepare bacteria for ingestion by leucocytes.

Opsonins are of practical interest in diagnosis, in estimating susceptibility and as a guide in vaccine—or inoculation—treatment through the variations of bacterial activity revealed by the Opsonic Index, which represents the relative strength of the opsonic power in the blood serum submitted to test as compared with that of normal serum over the same micro-organisms.

In explaining the action of the antitoxins Ehrlich has offered the most plausible theory to explain the affinity that exists between the toxins and the antitoxins.

Each living cell, he assumes to consist of a collection of various chemical substances which possess affinities for certain other chemical substances as is the case with all chemical bodies. The toxin is supposed likewise to be a chemical substance. A union must take place between like substances of cell and toxin until the affinity is fully satisfied. Only part of the components of the cell can be brought thus to enter into union with the toxin and this part Ehrlich names the Receptor and those cells possessing no affinities for a particular toxin are supposed to lack the necessary receptors—hence the cells possess no immunity.

For purposes of diagramatic representation and more easy comprehension Ehrlich likens the receptors to the supposed side-chains in organ compounds. The normal function of the receptors is to furnish appropriate nourishment to the cell.

LOST—TWO MONTHS.

By George L. Servoss, M. D., Gardnerville, Nevada.

One may wonder, from the title of this paper, just what is meant. It is simply this, that I have been "out of the running" for two months, most of which time was spent in a hospital, during which period I submitted to a gastroenterostomy for the relief of a duodenal ulcer, which had me fairly on the way to the other world. During the week following February 12, owing to an erosion of one or more blood vessels at the site of the ulcer I had a series of haemorrhages which left me fairly bloodless. On the 19th of that month I was taken to Reno and placed in a hospital, where I was given cacodylate of iron compound hypodermically and calcium chloride internally until the 8th of March, when I was placed upon the table for operation. My blood count when entering the hospital was extremely low and was not taken because of fear that any manipulation at that time, even though slight, might cause shock. A week later the red cells were found to be 3,800,000, or about 50 per cent below the normal and the leucocytes 6,000 or 3,000 below normal. Haemoglobin was found to be present to the amount of 50 per cent. This was not sufficiently high to warrant operation and the building up process was carried on still further. My diet, of course, was restricted, owing to the possibility of recurrence of haemorrhage, but of soft food stuffs it was seen that I had plenty at all times. Although restricted to this class of food, my diet was extremely liberal, and left largely to my direction. From the 4th of March until the day before operation, the diet was increased, it being found that the ulcer was improving and

during that time there was a marked improvement in my blood condition, as well as otherwise. As soon as I am able, physically, to be out of bed I spent as much time as possible out of doors and this added to my general improvement, so that I went onto the table in practically my normal condition. In fact, I was in the hospital but a week prior to getting out of bed and dressing. The first day I lounged about the yard, the following day saw me out taking a "hike" around the block and within a couple of days thereafter was going about the town. In this way I was able to retain my strength through normal exercise.

The morning of the operation, after a dose of H-M-C at 8 A. M. I took it easy until 9:30 when I walked up two flights of stairs to the surgery, climbed upon the table without help and in 11 minutes was ready for the knife. The operation was completed in 90 minutes, 29 of which were consumed in breaking up sufficient adhesions to allow of the performance of the posterior operation. My pulse was 72 per minute when I went on the table and 80 when again placed in bed at 11:05 A. M. My temperature was normal when I left my room for the surgery and remained so until late in the afternoon, when it arose to 101° F., with pulse rate increased to 102 per minute. A single dose of camphor in oil was effective in lowering the pulse to below 90 per minute and there was an associated decrease of the temperature.

The single dose of H-M-C was sufficient to obtund the sensibilities and to rob the idea of general anesthesia and operation of many of its horrors. In fact I walked to the surgery feeling particularly good and joking with my nurse all the way. The last half hour before going to the table was more in the nature of a waking dream than anything else. My recollection of going to the surgery and the few moments of consciousness therein are very vague and I could not tell just what my surroundings looked like. Ether was employed to obtain surgical anesthesia, and this condition obtained within 11 minutes after I took my first inspiration and without the least excitement on my part. Not only did the primary narcotic serve to rob the operating room of its horrors, but in addition, allowed of several hours sleep after I left the table.

In preparing for the operation, I took my last meal the day previous at 2 P. M., after which I drank as much water as possible up to midnight. At 4 P. M. I took 2 ounces of castor oil which sufficed to clear my alimentary canal completely. From midnight until the time of operation nothing entered my stomach. As the oil had ceased being active before midnight I was able to spend the latter portion of the night in refreshing sleep and awoke at 6:30 A. M. particularly good natured. This was all the preparation made prior to the operation, in so far as my general condition was concerned. With the conclusion of anesthesia my stomach was thoroughly washed out with a normal salt solution, and as soon as placed in bed the normal salt "Murphy Drip" was begun, and at the time of my awakening upwards of half a gallon of this solution had been thrown into my bowel, all of which was retained. At 3:30 P. M. I voided some 14 ounces of urine without the use of a catheter and continued this physiologic action every thirty minutes to one hour for some time. The normal salt enemas were given and retained evry three hours, to the amount of one pint each time and this served to keep my kidneys functionating very actively. In this way, any ether which may have entered the stomach was washed out prior to my leaving the table and that which was in the circulation was excreted by the kidneys. Within less than 24 hours after leaving the table I have every reason to believe that every vestige of ether had been excreted. No water

by the mouth was allowed for 27 hours after the operation. There was a little nausea just as I awoke, but this was very largely due to the fact that I raised my head off the bed. There was no vomiting, either then or later.

The title says "Lost—Two Months," but they were not lost by any means. My experience in the hospital gave me a practical demonstration of many things which had before been presented only as theories. The use of the organic iron compound hypodermically was new. I was able to watch its action from day to day, as my circulation filled up. I had, prior to going on the table, never seen ether given by the drop, or open, method, although I had given it hundreds of times with either the Allis or closed inhaler. Nor had I ever had any experience with the gastric lavage after anesthesia. Proctoclysis, of course, was not particularly new, but I had not seen it used invariably in every operative case. I believe that both the lavage and proctoclysis have numerous advantages. The first certainly overcomes tendency to nausea and vomiting, as it thoroughly removes any ether which may have been swallowed, and there is no case of prolonged anesthesia in which the patient does not take more or less of the anesthetic agent into his stomach. By employing the normal salt enema as routine practice elimination, instead of being abated as is so frequently the case in general anesthesia, is increased and even before the patient awakes, the kidneys have regained much of their function. I found upon inquiry that, in the vast majority of cases, in which the Murphy Drip was given immediately after the patient was placed in bed, there was no call for the use of the catheter. The only case in which it became necessary to catheterize were those in which there was previous delirium, or profound septic infection. Owing to the fact that I went upon the table in good condition and was well taken care of after my operation, my convalesence was extremely rapid.

The main points to be gathered from this case are these. That the patient should not go to the table in a poor condition physically, providing time is given in which to build him up. That he should go to the table with an empty stomach and clean bowel. That an initial narcotic should be given, thereby quieting the patient's sensibilities. That the stomach should be cleared of swallowed anesthetic agent and of mucus. That elimination should be enforced through the institution of proctoclysis immediately the patient is placed in bed. Although there were two months lost from work, these few little practical things experienced by myself were worth the loss of time.

Note.—Our readers will all share with us in the pleasure derived from hearing from Dr. Servoss again and join us in hearty congratulations to him, because of his recovery from such a dangerous condition. We had often wondered why we did not hear from him during those "two lost months."

—J. V. S.

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HE HURRIED BACK.

The office boy was on one occasion sent to Richmond Harding Davis's rooms to get some "copy." Pretty soon a clatter of feet was heard on the stairs, and in burst the boy, entirely out of breath.

"What's the trouble? Wasn't he there?" was asked.

"No, sir, he's out, and de joint's all locked up."

"Then why didn't you wait for him as I told you?"

"Wh-wh-why, dere was a note on the door dat said 'Return at once,' so I thought youse wanted me back quick."

PHYSIOLOGY OF MARRIAGE.

D. L. Fields, M. D. Jeffersonville, Ind.

I assert that every person, at a suitable age, should look upon marriage as a moral and social duty Bachelors are inexcusable, if they are physically and financially able to marry. If the world were full of bachelors, instead of benedicts, the human family would soon become extinct. Marriage is a divine injunction; as binding now, as it was in the days of Abraham.

Every one contemplating matrimony should be informed of the laws governing the estate. They should not enter it ignorantly, nor inconsiderately; but should know its sacred obligations. No marrying in haste, and repenting at leisure.

It is the rule among young men, even college-bred ones, to be totally ignorant of the physiologic law of matrimony. If they ever read of such a law, they are utterly indifferent as to its importance. When it is too late, they learn by bitter experience. If a man enters the estate well informed as to the physiological relation that should be sustained between the young married people, in order that normal, healthy conditions may be maintained, he will not run so much risk of having an invalid wife to care for. Some men are no better than the lower animals, in the earlier years of marriage. They regard their wives as little more than the means of gratifying an insatiable lust. Their wives are prematurely broken down by excessive and frequent child-bearing. They are little better than mere slaves; toiling at the wash-tub; cooking three meals per day and tending a baby. I have known numbers of wives who have almost constantly a child in arms, and have to do all the household drudgery, and get a morning meal before five oclock, six days in the week.

No wonder they soon break down. It is a cruelty. Of course, this condition of things is found among the working classes; but burdening a woman with a large family, and having an increase about every year, is an outrage upon the wife. There is no danger of "race suicide" among those who are not able to give their children any advantages in life; but those whose circumstances are fortunate, don't have large families; and for that reason, it seems that in time, the human family will become inferior intellectually, socially, and in educational advantages. It will not be the survival of the fittest. It is all right for laboring men to have children; but they should not attempt to rear families unless they are able to educate them, and afford them the advantage of some useful trade.

There is one event connected with the marriage state, that many young people are in total ignorance; and that is the law of gestation; but there is a but a short time, however, before their ignorance is dispelled. It is said that savages abstain from sexual embrace, during the time of pregnancy; but I don't think such abstinence is the rule among the civilized. Some eminent physiologists, in pursuance of investigation, conclude that the savage practice is the true state of nature. Take an analogy. Who is there who does not not endeavor to leave the ground into which he has planted his seed, in perfect quiet during the process of germination and growth that they may go on to perfection. Who would shake or roughly disturb the soil in which the embryo plant is forcing its way into life? No one would do these things but an ignoramus. Again, in the management of domestic animals, who would expose the animal with foal to any sort of violence, or allow sexual congress with a male animal; as a fact it is not the nature of the lower animals in the gestation period to receive the male. They are restricted by instinct, during gestation. If men would observe this rule their off-

spring would be the better for it. There are many things that have to do with actual conditions of the embryo human, which are entirely under the control of the parents; and which are intimately connected with the well-being of the child.

It may be that the thousands of still-born, and those that perish in utero, might be solely the result of external violence, or nervous excitement and emotion, which accompanies sexual congress during the pregnant state. Injury may be inflicted by abdominal pressure, and violent muscular exercise. Many women are subjected to rough usage by lustful husbands, at a very critical time in pregnancy. Such practices by men places them lower in the scale, than brute beasts. An eminent authority asserts that a majority of infants dying in utero, are the result of mechanical violence inflicted by coitus.

There are men who would not deny themselves one moment of enjoyment even if they could save a wife from suffering or prevent the destruction of a child. And it may be said there are women who would willingly submit to brutish embraces, if they could thereby arrest the progress of gestation. I know this to be a fact. The practice of sexual intercourse during pregnancy often destroys foetal life; and many tens of thousands are thus destroyed in the United States every year.

Young men, and old ones, should think of these facts whenever and wherever temptation solicits. If they don't know any better it is high time they should know the penalties likely to be visited upon the unborn infant by their transgressions. I do not assert that all commerce of the sexes during gestation may result in harm, but there is certainly a risk in it. Woman, thus exposed, is likely to abortion, as the penalty of a violated physiological law. It is more probable in the early years of matrimonial life, at certain times. It is more liable to occur in the early months of pregnancy. She should have the co-operation of her husband in maintaining continence during this critical time,—not only in saving her from all avoidable hardship; but see to it that her nervous system shall not be subjected to any undue excitement. Let him understand that anatomy and physiology point to avoidance of sexual commerce during pregnancy, that it is a prolific source of evil to both the mother and the infant.

He who would make his wife both as a wife and a prospective mother, happy, and healthy during her gestation, should not only be continent, but treat her with delicacy and sympathy. Many prospective mothers are troubled by forebodings of danger, and are apprehensive and melancholic. All these tendencies can be largely avrted by tenderness, sympathy and cheerful surroundings. They should be encouraged to go abroad as much as possible, and seek agreeable and cheerful associates. Husbands should make sacrifices for their health and happiness at all times; but especially in time of pregnancy. When in the pregnant state, a woman should have plenty of pure air in her bed-chamber; not only for her own sake, but for her prospective offspring, as well. One important reason why she should have plenty of pure air,—thousands of pregnant women are shut up in stuffy flats, where both the inside and outside air is impure; and they rarely go beyond the narrow walls of their apartments, sleeping in narrow, unventilated apartments is ruinous to anyone; but emphatically injurious to pregnant women. She needs air, outdoor life, plain food, and cheerful surroundings. Luxurious living and luxurious eating tend to render a woman unfit physically for the trying ordeal of child-bearing. If they get through, it is usually by instrumental aid; and what is more, they are ever after such invalids,—having

no physical stamnia,—that they never become the mothers of families.

Every man and woman ought to know that the object of marriage is to raise a healthy family of children; and such cannot be accomplished if they live the life of ease, and luxurious living. What is still worse, is the crimianl attempts to destroy foetal life. It is dreadfully prevalent among those who are so situated as to afford to rear hildren with every advantage of wealth and social position; but they are the very ones who will resort to any means, however criminal, to thwart the physiologic law. They don't seem to have any conscientious scruples about it. While they would be horrified if a mother strangles her new-born babe, they think it no crime to kill them in utero. Foeticide, infanticide and homocide are one and the same, only differing in degree. The penalty of destroying foetal life is very often the destruction of the mother's life. However, if her sin is not punished here, it will be hereafter. It is the most common and heinous sin of the day. In almost every community, we have doctors who practice producing criminal abortion for pecuniary gain; and the prisons are full of less criminal inmates. It doesn't seem to disturb the consciences (?) of the scoundrels, if the enciente woman dies, as the result of his crime. I know women who have boasted that they have been to doctors—Godless wretches—who used uterine probes on them, and they got clear of it. Hell is full of such doctors. The law may not reach them; but God Almighty will.

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A tramp who seemed to be in a starving condition asked for food at the kitchen of a home in California.

"You like fish?" asked the Chinese cook.

"Sure," replied the tramp eagerly.

"All lite; come alomd Fliday."—Everybody's.

SCHOOL HOUSES AS SOCIAL CENTERS.

By G. O. Dunseth, A. B., M. D., Cambria, Wis.

This is a subject of vast importance and one which might be debated for some time to come. We, in the present time, should put forth some energy and ascertain whether or not it is a desirable procedure to use the school house for various social entertainments.

First, is it a good idea to open the school house for general use? Is it not a good place to invite a contamination of various diseases which would otherwise be avoided?

Secondly—Do many parties attend these various entertainments and school meetings with an idea of being helpful to the children or teachers, or merely to satisfy their own personal desires and have a place to spend the evening?

Now to the question; is this just the right thing to do; to throw the school buildings open for all occasions? There is an old saying "Every question has two sides" and this seems to be one of them.

Throughout the southern part of Colorado, in the mining camps, there are no places of amusements, such as you find in the towns of the eastern states. There are no dancing halls, picture shows, theatres, nor music halls. In fact the school house is the only building in the camp which can be used for such purposes, consequently it is thrown open to the public for all entertainments, and business meetings, such as polling place for all elections, board meetings, etc.

In these mining camp schools you will find all the grades from kindergarten to 8th grade inclusive and usually from 4 to 5 teachers to handle the crowded rooms filled with a mixture of nearly every nationality that exists. Either the kindergarten or grammar room is usually so arranged that it

can readily be converted into a hall for public use. And as the funds of these districts are usually low, this necessitates poorly furnished rooms, with very few decorations.

One particular school which I have in mind, was shown me as having a history but 4 years ago, as having such poor equipemnt that the teachers and children began looking about for ways and means by which to make the rooms more attractive and pleasant for themselves as well as for the public. Never before in all my experience with public school work, have I seen such interest taken by both the teachers and the pupils as was shown there, not only in one grade, but all.

The course of study was very complete, and besides the common branches, I also found the study of music, both vocal and instrumental, elocution, drawing, domestic science and manual training. For evening and Saturday work, different clubs were organized, such as Literary, Reading and Debating clubs, Scouts and Guide Girls.

Outside the ordinary work of the domestic science class they exercised great pride in learning the art of cleaning and decorating and before many weeks had passed the building took on a more cheerful aspect. Everything was thoroughly cleaned, furniture and decorations re-arranged, curtains hemstitched, instead of the ordinary sewing, etc. And while the girls were doing this the manual training classes were making sample pieces of furniture, mending broken desks and chairs, putting in new panes of glass and any such work they could find to do.

The music, elocution and debating classes were kept busy preparing entertainments, for which a small fee was charged, the proceeds being used to purchase books, book-cases, clocks, curtains, pictures, statuary, such as busts of Washington and Lincoln, and other pieces of furniture or decoration which was needed.

Often the domestic science classes would hold "candy sales" of their own make, and any of the people of the camp who wished to buy candy, cakes, cookies, pies or bread would come to the lower hall of the school building on a certain date and help to swell the school funds by their purchase of whatever they wished—and needless to say everything was fit to eat.

Once each year a fair is given and fancy work is exhibited by members of the different sewing classes, and sold. These articles consisted of various fancy work, such as pin cushions, hand made sofa cushions, aprons of all descriptions, quilts, etc. In fact everything a housewife should know how to make.

In localities where this sort of work is not practiced, you will hear some one say, "What has become of the regular routine of school work, while all this is being accomplished?" But when you take a peep into the school rooms you readily see that order and discipline are carried out throughout the building. There is no time for throwing spitballs, eating apples and candy, chewing gum, writing notes to your little sweetheart across the room and many other things which are allowable in schools where the preparation for entertainments, etc., are unknown and the students not kept busy.

Another feature of this particular school is that great interest is taken in all the various branches of study. Neatly written papers and maps carefully made are collected and reserved for one day each month which is observed as a special exhibit day when all parents as well as outsiders are invited to visit and inspect the work of the various children. Two to three samples are presented by each student, and placed on tables, etc., so the visitors can examine each article and compare it with the work of another student.

One interested in school work can't help but admire the children for their hard work, which it is a pleasure for them in a way, to prepare for the visitors. Some pupils who had taken no interest, now take great pride, in their work and before the year has passed, many of the stronger and more apt children have completed two grades. I will say right here, all the classes are up to date and some above the standard of the city schools, and no doubt this has all been accomplished by keeping the child busy with his school work as well as preparing articles for entertainments, etc., which necessarily catches and pleases the eye of the public who must use the building for a social and business center. Can we say, do they, the public appreciate it? Does it pay?

When this custom was first put into practice in this particular school house, I will cite you to what followed.

Early one Monday morning, following a Saturday's night social gathering, the sight was astonishing. The once clean and tidy place, was this morning covered with dirt of all descriptions and filth unmentionable. Youngsters who have wished to follow in the footsteps of their fathers, had undoubtedly endeavored to ascertain which could spit tobacco juice the farthest and those who were unable to reach the ceiling, were quite successful in spattering on the walls and floor, others using the ink wells or inside of desks, etc., and on farther inspection it was found that Washington had a stub cigar pasted to his mouth and spectacles on his nose; Lincoln had been painted so he wore a fashionable mustache and goetee, both statues were spotted with cake crumbs and juices from peelings of fruits, which apparently had been used for target practice. Some unfortunate had jammed an elbow through a window pane. A dozen or more hammers broken from the piano, etc., all this looked very much as if some huskies had been turned loose from a bug house.

Now, shall the children sit and study in a place of this sort? No, indeed. So with a flourish of brooms and mops and in a few hours the place was again in repair and they resumed their studies and the lessons were made up before the close of the day.

But as times went on the public improved and each Monday there was a little less cleaning until at the present time the brooms and mops are a thing of the past and the day following an entertainment the school work is uninterrupted.

This is one examle, which the people in certain parts of Colorado are experiencing and the high standard of their school system, well attended classes and extreme interest taken by the students can probably be credited to nothing else, otherwise than throwing open the doors of the public school buildings, and making them the social centers of the community.

NOTES ON SOCIAL CENTERS.

The author of the preceding paper has presented an interesting description of how school houses were utilized on the frontier and served the purpose of a common center for all kinds of entertainments and shows how successfully these enterprises were managed to provide many necessary helps to the overworked teachers, who fortunately had ideals and aroused the communities so fortunate as to have their services to some of the better things of life, than to be satisfied with a mere animal existence. The abuses mentioned, regarding the disorder that was left after using the room for these social gatherings, it seems to us to have been unnecessary and that a more gentlemanly behavior should have been insisted upon or the gatherings discontinued. We do not believe that refreshments should ever be served in any

case, nor should their use in the room be permitted. Perhaps the commercial spirit in the sales held, more than balanced the good derived from the money made out of them. This is another plan not necessary in most places. No such social should be held in any public building on Saturday night, that is to be used regularly on Monday morning. The argument of increased danger of contracting disease has some weight, but there is no greater danger than in more favored communities where people are assembling freely in churches and lecture halls and cheap theatres, etc. Again it is perfectly practicable to disinfect, as well as to clean the rooms used, in the ordinary way. In December, 1910, Chicago commenced using the school houses in the way of social center work. Ten were opened the first year and four more this last school year. In all of these except one, two sessions are held each week and in that one only one each week, for five months of the year. Various clubs are organized, among the young people, such as singing classes, debating and dramatic clubs, whose duty it is to provide musical programs, plays or debates.

Illustrated lectures and educational motion pictures on travel, industry and natural phenomena are shown at there schools. Study rooms are maintained in the evening for children who can not well do their studying and writing at home. Mothers' clubs and gymnasium classes have been organized and civil service classes have been opened at some of the men's centers for those wishing to take examinations for positions in the fire or police department in New York City where the men's centers are entirely separated from those attended by women and children, which is not done in Chicago. In New York thirty centers have been opened for men and fourteen for the women. There the centers are open six evenings in the week and the aggregate attendance for five months was 2,088, 415. There are 653 various clubs in the centers in that city. —J. V. S.

CHRONIC GOUT WITH HEART COMPLICATION.

By Heneage Gibbes, M. D., C. M., L. R. C. P. (London), McAlester, Okla.

It is now becoming evident to the medical profession that gout is more prevalent in all classes of society than was formerly considered to be the case. Thirty or forty years ago the idea that an ordinary working man was suffering from gout would have been ridiculed as an absurdity. Now, however, we are beginning to know better and some obscure cases that do not respond to the ordinary treatemnt will show the gouty element, if a little colchicine is given, through the readiness with which the symptoms will subside.

We have to make a sharp definition between acute gout and chronic gout, the latter being very much harder to diagnose and treat. It is this form of the disease that is the subject of this paper; and I am going to take a very typical case to illustrate it.

My patient was a man past sixty, apparently in strong, vigorous health, who came to me to be treated for "stomach complaint and constipation" which had troubled him for years. I gave him a pill of blue mass, rhubarb and ipecac, told him to take a good dose of Rochelle salt in the morning before eating, and to come back the day after. He returned the second day feeling, as he said, "Like a new man." I thought I had an ordinary case of chronic gastritis to deal with and treated him accordingly, giving him the W-A Intestinal Antiseptic (Abbott's sulphocarbolates Compound) every four hours, with an occasional pill and a flush of Saline Laxative the following morning.

He did not improve as I expected

and complained of an uneasy feeling in his heart. He had some difficulty in describing the sensation. There was no palpitation, but a kind of dull ache which increased, at times becoming actual pain. Now, for the first time, I gave him a really thorough examination. I found no organic change in the heart, but its action was weak and irregular. He was very nervous and told me afterward that he was afraid he had heart disease and would drop dead some day. I tried to assure him that the feelings he had were not those of a disease that would serve him in the way he feared, but at the same time I felt that I must remove that feeling as it was seriously affecting his health and retarding recovery.

I now examined him closely for symptoms of gout, finding two tophi on the tendons in the palm of his left hand and one in the right. There was another on the side of the second toe of the right foot which had been very painful, and which he thought was a corn. The big-toe joint of this foot was much enlarged and he told me it was at times so painful he could not bear a boot.

This disclosed the cause of the mischief, which had evidently existed for a long time. Under the influence of colchinine granules, three times a day, his constipation being overcome at last, which took some time, as the muscular walls of the intestines were in a state of semi-paralysis (heavy doses of strychnine combined with physostigmine salicylate at length restored the peristalsis, and a pill of blue mass, rhubarb and ipecac stirred up the emunctories) the tophi were reduced in size and were free from pain as also was the big-toe joint.

He was now in a condition which ought to have satisfied him but he still complained of his heart, which was still the seat of a dull, aching pain. It could hardly be called a pain, however, but it still persisted in spite of the use of digitalis, which, he complained, made him sick. I tried the bromides and hyoscyanus which seemed to act well at first but they soon lost their efficacy.

I was now completely puzzled. I went over the whole examination again, making careful urinalysis, but found nothing abnormal. The blood showed a diminuition of red corpuscles but nothing further. I gave him sparteine sulphate, one to two grains three times a day and a dose of ammoniated citrate of iron after each meal. This seemed to invigorate him for a short time. The heart was acting almost normally and I was beginning to hope that I had overcome the trouble. But the improvement was only transient, as the persistent, dull ache came back.

My patient was fast becoming hypochondriacal and I was beginning to fear some deep-seated organic trouble. I had several times made most careful examination of his heart, but found nothing abnormal.

I must mention that I had called in consultation a man in whom I have the greatest confidence, but he could find nothing wrong, neither could he suggest any change in the treatment. This man is a firm believer in the active principles. About two weeks after the consultation he brought me a new preparation which he said helped him when digitalin failed. It was called "Digipoten (Abbott)" and consisted in the combined active principles of digitalis leaves. It was in tablet form and I at once began to give my patient one tablet three times a day. In a few days there was a marked change for the better, and this continued until the pain or ache had entirely disappeared.

This improvement has now continued for some weeks and there is no sign of returning trouble. The patient has become convinced that the ache has really left him and he is regaining his appetite and strength. His mind also s now free from the harassng dread,

that was ever present with him, that he had organic disease of the heart and would some day fall down dead. He has perhaps drawn his conclusions too soon, but I hope they may prove correct.

I am well aware that one swallow does not make a sumer, and I have always avoided relying too strongly on the result of one case, but the outcome in this instance has been so marked and the experiences of others about me coincide so nearly with mine that I feel justified in giving it to the profession. Needless to say, I am now using the preparation in every case I can get hold of and am also inducing my friends to try it. I hope ere long to have a number of cases to report.

THE SPECIFIC TREATMENT OF PELLAGRA.

By E. H. Martin, M. D., Hot Springs, Ark.

(Continued from page 141 April Recorder)

This brought deductions as to the possible cycle of development of the pellagra germ. We all know that in malaria we have quinin as a specific, but that quinin will not cure the plasmodia until of a certain age. Presuming this age to be over four days and the cycle of development of the malarial organism to be ten days, it is easy to understand why chills recur on the seventh day. All of the plasmodia over four days old being killed and the quinin being left off, a crop matures in six days. Still, we do not discredit quinin on that account, but take advantage of that fact to give it more intelligently.

It was evident that some such condition exists in pellagra, but with a longer cycle of development for its germ—possibly three weeks. In salvarsan we have a specific which, like quinin in malaria, will kill all of the pellagra germs of a certain age, but will not kill those of a younger state of development, possibly on account of encapsulation. The problem, then, is first to so regulate the dose of salvarsan as not to kill too many germs at once for fear of the large dose of endotoxins endangering the patient; second, to repeat the doses at such close intervals and so frequently that all of the immature germs may be killed as they reach the killable age and before reaching the age of reproduction. I have arbitrarily selected ten days as the interval most probably insuring these conditions, and have been giving two decigrams at the first dose, four at the second, and six decigrams, or a full dose of salvarsan, at the third dose. In some cases where no great debility existed and where the disease was not very active, I have given three full doses in proportion to the patient's weight. (

Three of these cases happened to come under my care at the same time, and were treated alike. Each of them received two decigrams of "606" intravenously on August 22, four decigrams on September 2, and a full dose, six decigrams, September 12. None of them had a reaction of more than one degree after the first or second dose, and only one of them much of a reaction after the third dose. In this case the temperature went to 101.1 degrees Fahrenheit on the second day. Two of them received a fourth dose on September 25, and they had practically no reaction in either case. These three may or may not have enough, but can safely wait until the winter interval before getting another dose. I hope to give each case treated a prophylactic dose about January 25.

If these patients had had full doses of salvarsan at first they would have all been quite sick for a week, especially the one in whom the disease was most active. He had skin lesions on hands, arms and body, all quite extensive, and all disappeared in a few days. The other two had skin lesions, one very marked, which had previously disap-

peared under injections of soamin. At the time of the administration of the first doses they were in the usual pellagrous nervous condition and had the gastric and intestinal disturbances. Two of them gained six or seven pounds during the first interval, the third gained, but lost later on account of an intercurrent attack of malaria.

I may add parenthetically that salsarsan has no effect on the malarial parasite, notwithstanding that that claim has been made. I have frequently demonstrated the malarial organism in the blood and have seen clinical evidence of its presence a few days after having given "606" for syphilis, but I must add that I have not tried this on any case showing the tertian organism.

I am not going into statitstical detail in this short paper, as I wish to press home certain ideas and the truth of each, and do not care to burden your minds with case reports. Will merely state that my conclusions concerning salvarsan in syphilis and pellagra are based on close observation of patients receiving 300 doses, either first, or second, or third, or fourth doses, and that my conclusions and opinions as to the curability of pellagra as herein given are based upon the personal treatment of fifty-two cases, ranging from the mildest to the most severe. The conclusions as to the value of soamin are also backed by favorable reports of several hundred cases of pellagra treated all over the South, and these reports were sent to me voluntarily by physicians who had used soamin after reading the paper which I read in Memphis last fall before the Tri-State Medical Association.

To summarize the points which I wish to emphasize:

1. Soamin will relieve all the symptoms of most cases of pellagra; it fails only when the condition of the patient is so feeble, complications so severe or the disease so aggressive that it cannot be given in sufficiently large doses. Usually it causes no reaction unless given in over five-grain doses. Some cases would require more and could not stand the reaction from the endotoxins. Given in ordinary doses, it must be kept up for several years, the time yet uncertain. It is probable that if ten-grain doses were safe that there would be no relapse, at least so one physician reports to me.

2. Salvarsan causes no symptoms if properly given to healthy people. In short, no disease germs, no reaction.

3. The fever following the administration of salvarsan to a case of syphilis is not due to the drug, but to the endotoxins released from the killed germs; and is both diagnostic and prognostic.

4. The fever following the administration of salvarsan to a case of pellagra is not due to the drug, but to the endotoxins released from the killed germs, is also diagnostic and prognostic, and further proves beyond a doubt that pellagra is a parasitic disease caused by a micro-organism vulnerable to "606."

5. That it is at least reasonable to believe that this organism is a spirochete or a spirillum.

6. That the character of the reaction, the duration of the fever especially, shows that the germs of pellagra are located principally in the brain and spinal cord.

7. That the endotoxins released by the destruction of the pellagra germs are so highly toxic to the human host that the dose of the drug must be proportioned so as not to destroy too many micro-organisms at one time, or the results may be disastrous to the patient. Observing patients given large doses of salvarsan, one can readily believe that in some cases a condition paralleling the so-called "congestive chill" in malaria might be produced.

8. Salvarsan does not cure pellagra in one dose, owing to the invulnerability of the germs at an early stage of development.

9. Prompt disappearance of symp-

toms shows that the older germs are killed.

10. That small and increasing doses repeated within the time required for the development of germs from the invulnerable stage to just before the stage of reproduction, gives us a rational treatment for pellagra and should offer as much certainty of a cure as quinin in malaria when properly given with respect to the seventh day.

♣ ♣ ♣

FURTHER NOTES ON PELLAGRA.

The interval treatment of pellagra seems from some reports to promise more certain results with less trouble than the treatment of the active disease. Until this is fully decided it will be well to give all cases of pellagra or suspected pellagra a dose of salvarsan in January.

Many explanations of the cause of the reaction following salvarsan have been given which do not accord with my explanation in this paper. Only one of these is worthy of comment—that is, that old distilled water may contain toxins and that no reaction occurs where freshly distilled water is used. There is something in the first half of this suggestion, but not in the latter. Old distilled water may contain toxines which may cause a reaction in anyone. But I use only water fresh from the still and get consistent reactions. This may not always be accurately predetermined by the lesions present but is also affected by the stage of the disease and the amount of previous treatment.

A typical case of very severe secondary lues, the patient was covered, practically with a late secondary eruption, gave a temperature of 104 degrees Fahrenheit five and one-half hours after the dose was given. Had the toxines causing this reaction been in the distilled water the maximum temperature would have occurred in two hours. At the same time and with the same care and using the same water and the same technique, other cases getting final doses gave no reaction.

And finally, to fully exclude the water or the salt, if fresh and clean, as causes of the reaction, one has only to remember that even the intra-muscular injections of salvarsan gave quite consistent and proportionate reactions exclusive of local effects.

NOTE—As stated elsewhere we are desirous of placing both sides of the Vaccine and Serum therapy before our readers. We therefore publish these further and explanatory notes as an addition to Dr. Martin's paper in the April number. —J. V. S.

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DISEASES OF CHILDREN

(Continued from Page 173)

are supplied three syringes, each containing the proper amount for injection, designated respectively, first, second and third doses. The first syringe contains the initial dose of 500 million killed meningococci, and the second and third 1000 million each. The dose, to be followed five to ten days later by the contents of the second syringe and again five to ten days later by the contents of the third.

The H. K. Mulford Company also supply Anti-Meningitis Serum prepared after the method of Flexner and Jobling, and they will mail upon request to the Philadelphia Office, Mulford Working Bulletin No. 8, on Anti-Meningitis Serum, giving a detailed and impartial review of the literature.

Notes. The subject of the use of Bacterins has been discussed quite freely in these columns. We have given this side of the question for comparison of ideas and for the information of our readers, that both sides of the question may be heard.

SAD FACTS AND FOLLIES of CHRISTIAN SCIENCE

By GRACE M. NORRIS, M. D. New York, City

First Skeleton: An important point in Christian Science is the teaching of the "Allness of God" and the "Nothingness of All Physical Creation."

Second Skeleton: Yes, Mrs. Eddy, often calling attention to the awful reality of matter in no less than 50 places in "Science and Health," suddenly makes the astonishing declaration, that "after all," there is no such thing as "matter or evil." Reporter seated in rear), say nothing now that you do not want me to publish in my papers.

F. S. Certainly not. You can publish anything we say. What thoughts she really wished to convey, probably no one will ever know, and it is indeed doubtful whether she knew herself.

S. S. But if this latter assertion is correct, all the good works attributed to Jesus count for nothing and his mission on earth becomes at once a huge and cruel joke.

F. S. For Jesus said he came to save humanity from their sins—not a belief in sin; to save sinners—not a belief in sinners.

S. S. When they who were about Jesus believed him to be a spirit, he showed his pierced hands, and bade Thomas feel his cruel wounds.

F. S. When, in pitying tenderness, he cried: "Oh, Jerusalem, Jerusalem!" he was weeping over an actual Jerusalem, that had people to be gathered, even as a hen gathers her chickens.

S. S. Now, if Mrs. Eddy's statements are correct, we are bound to conclude that the great Galilean was under the wicked influence of mesmerism or malicious animal magnetism when he wept over this supposed Jerusalem.

F. S. Exactly. If in reality there was no such material city, and never had been, if there were no people living there, they only existed in dark scenes of the Master's mortal thought.

S. S. Yes, and we must not forget, however, that Mrs. Eddy claims her revelation of truth is higher, clearer and more permanent than that which had been revealed to Jesus.

F. S. One of Mrs. Eddy's faithful and learned adherents, while at a funeral, pointed to the lifeless form of a loved one in a casket, and remarked —"Know all of you, now for all, that that person never lived and never died; it is only a dream!"

S. S. That statement was perfectly logical, according to Mrs. Eddy's philosophy, which reduces all people and things to nothing.

F. S. Jesus could not have seen a suffering world, since there is no suffering.

S. S. There are no human eyes to behold suffering, and no material world to be seen.

F. S. There are no ears to hear the cries of pain; there is no pain or voice to cry—for Cristian Science and God is all there is.

S. S. In the Christian Science Herald for 1892, a periodical which was then controlled exclusively by Mrs. Eddy, and which is one of the official organs of her church, offered a fair example of this phase of Christian Science Philosophy.

F. S. Yes, I well recall her rabid sayings. "I now declare all pain, sickness and death to be nothing, nothing! There is no sickness; I deny that there was ever any sickness; I do not believe in poverty; I know there is no poverty, there never was any poverty, there never will be any poverty, we have great stores of wealth, every man woman and child is rich, they want for nothing; I do not believe in storms, I know there are no storms, there never were any storms, there never will be any; I deny the reality of storms, hence and forever. I do not believe in accidents, I know there never were any accidents, and there never shall be any."

S. S. All this is wild raving, yet it is uttered in the most serious earnestness.

F. S. Yes, the absurdities manifested by the true followers of Miss Eddy are many and unexpected.

S. S. I have in my mind and knowledge the case of a convert—prominent in the community for his natural tenderness and goodness of heart, who became so blinded by his new creed, and obedient to its injunction that pain, sickness and death are nox-existent, and error, as to make the death chamber itself the scene and occasion of the ghostly pun. "I am dying! I am dying!" said the sinking mother. "Dyeing!" was the cheerful response. "What color?"

F. S. Right here I wish to allude to what I regard as one of the saddest rites of Christian Science. I refer to the entire absence of that which is so prominent a feature of every other church organization in christendom.

S. S. I presume you refer to the systematic provision for the poor, the sick and the helpless of the world.

F. S. Exactly. Out of the rapidly accumulated and accumulating wealth that from one source and another is gathered by Christian Scientists, there is nothing for those benevolent movements that show that charity has been taught, and tenderness and sympathy for their fellowmen inculcated.

S. S. Where in Christian Sciencedom can they show us one organized charity—a hospital, a home for the young, the old or the infirm?

F. S. When has there been any voluntary concern manifested by visitations or kindly reach to cheer the downcast, add hope to the despondent or guide the struggling one to a firmer life?

(To be Continued.)

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The "Red Plague" seems likely to assert its supremacy over its close competitor, the "White Plague." During the past few months in January and February, 1912, there were 1408 deaths from pneumonia in Chicago which was 107 more than in the same months last year. The worst months, those of March and April, are expected to exceed even this large number. Tuberculosis only claimed 699 victims in the first two months of this year, eight more than during the same period of last year. Four thousand being the annual death rate caused by consumption in Chicago each year. Reports of new cases of tuberculosis exceed those of the compared period of last year by 1009. Some of these unsatisfactory statistics are believed to be caused by the long continued cold weather with its depressing effect, in a general way, continually assaulting the reserve and disease-resisting force of the system and also causing closer confinement within doors for large numbers of people, exposing them to the deleterious influences of impure air.

In the entire registration area of the continental United States, containing an estimated population of 48,776,893 for the year of 1909, 70,033 deaths were charged to pneumonia and 81,720 to tuberculosis. In the State of Wisconsin in the same year there were 2,321 deaths due to pneumonia and in the year 1910, 2,253. In 1909, 2,476 and in 1910, 2,404 deaths due to tuberculosis. The terrible mortality tolls of the horrible "Black Plague" are not easily ascertained in shape to be statistically recorded. Many causes of death found in the reports of registrars of vital statistics are erroneous, because they only state the immediate and not the real or primary cause, which would make the last named plague the greatest scourge of all, undoubtedly. It is apparently true that the fatalities ascribed to pneumonia are increasing while those chargeable to tuberculosis are slowly decreasing. This seems to show the good results obtained in the efforts being taken to cure the latter disease and to enforce prophylactic methods of dealing with it. Also that it is necessary to improve the methods of treatment and the management of cases of those afflicted with pneumonia.

Our attention should be concentrated on prophylactic methods first, as the most important and valuable. In no other diseased condition is this of greater importance and in few equally so, to avoid the risk of having the disease, if possible and by all means to be in the best condition to cope with it, if it is unavoidable. To this end no one should permit their work or their recreation to demand too much of their time and strength, but constantly aim to have their powers of resistance at the highest degree of efficiency and all their reserve powers ready to be marshalled to repel and subdue the invader.

If the system is kept in this condition the patient will win the victory in the contest in a large proportion of cases, if they are correctly guided and advised by the attending physician and properly cared for in accordance with his directions.

On the other hand if the victim's system is fatigued with a continued

effort to dispose of the waste due to a luxurious diet and indulgence in alcoholics, or other stimulants and narcotics, the difficulties of the task are materially enhanced and the likelihood of an unfavorable result is greatly increased. The hygienic care of a case is of the utmost importance. When any considerable portion of the lungs have become incapacitated from performing their regular function it is very necessary that the patient have the purest air obtainable to breathe, which should be outdoor air, supplemented when required, by pure oxygen gas. The windows in the sick room should be open at all times, with care taken to keep out the storm and in the very severest cold weather, so arranged that there are no direct draughts. There may be heat in the room and a more comfortable room nearby where those caring for the patient can spend some of their time. Bathing should be resorted to as frequently as may be necessary to assist in controlling temperature. The remedies to be used should be those that fulfill indications from time to time and never used as a routine treatment. The use of external applications has proven to be an occasion of much discussion and difference of opinion and has brought into use poultices of various materials, each a vaunted cure in some community or some doctor's practice, afterwards supplanted by the many clay and glycerine pastes and varied with the application of cold in many cases, ranging from cold water cloths to ice bags, applied to the chest. Extremes have met in these efforts to help the patient toward recovery in this way and no greater harmony prevails yet, perhaps, still I think a somewhat more rational treatment in this respect has developed.

Perhaps the use of the cotton jacket is nearest universally used of any one thing and seems to be required, because of the idea of freely admitting outside air to the sick room. Personally, we like the use of warmth combined with some moisture where expectoration is not established and we have great faith in the penetrating qualities of oil of turpentine and in its beneficent effect on the tissues involved In sthenic conditions of the patient and of the circulation attended by high temperature we give Veratrum in small doses till this condition is modified, changing to Aconite in very small doses when the pulse and patient's condition is asthenic. Both of these remedies are good expectorants too. Adult dose of the first-named remedy to be from one to two drops repeated every hour while used and of Aconite ¼ drop as a maximum dose, often giving less for its diaphoretic effect, which smaller doses readily secure in most cases. Whatever secretion there is in the bronchial tubes or whatever haemorrhage occurs should be expectorated, as soon as possible, we think. We do not use the usual expectorants, as the deleterious effct upon the stomach is often greater than any possible advantage to be derived from their use We never use alcoholic stimulants and have had no reason to regret this decision, made twenty-five years ago and we are glad to note that the curernt papers on this disease are almost a unit in their agreement with reference to this point. We believe that there has been too great a tendency to use heart stimulants in a routine way and without reference to the actual condition of the heart and of the circulation. In some cases we have seen in consultation with other M. D.s we have advised the discontinuance of the large or frequent doses of strychnine being given and better conditions have immediately followed and patients have recovered, that were thought to be in a very dangerous state. The cases we have seen do not always require such remedies and do not get them till there are positive in-

dications for their use. It should be remembered, we think that over-stimulation always leads to a depressing reaction. We prefer strychnine when a remedy of this kind should be used, because of its dependability and because it gives so little reaction and it can be continued longer with good effects than any other remedy with which we are acquainted, in this class. Ipecac is a good remedy in all inflamed conditions of the mucous membranes and therefore particularly applicable in broncho-pneumonia and in some uncomplicated cases where expectoration is to be promoted. Severe pain is best controlled with Dover's or Diaphoretic powder, (of equal opium strength), because it is less depressing than any of the alkaloids of opium such as morphine, codiene and heroin that we have ever tried in such cases.

We use turpentine and lard or some animal oil in equal parts applied to the skin without rubbing and covered with the cotton jacket, making two or three applications per day and watching for any untoward effects upon the kidneys, which we have never had. Great prominence is given to the care and nursing and hygiene in general, with plenty of cold water to drink and not much attention given to trying to feed the patient, because, we believe that the digestive apparatus is not in fit condition to prepare nor to assist in the assimilation of food in the majority of cases and the crisis is usually reached so quickly that nothing can be lost and much gained by either giving no food at all for the first few days, or as little as posible to satisfy over-anxious friends If the disease terminates by lysis instead of crisis, or becomes chronic, a different plan in this respect will need to be followed. While there is a high temperature, we do not favor the giving of active cathartics, but advise an enema, or several if necessary, early in the attack to endeavor to clean out the alimentary tract. Sleep can often be secured, if the wakefulness is not caused by too severe pain, by the use of Passiflora in from three to ten drops at a dose till results are obtained. This remedy does not cause any reaction and is perfectly safe to use.

If a cyanotic condition develops accompanied with severe dyspnoea, indicating considereable obstruction to the action of a portion of the lung surface and also a weakened action of the heart, one should always be prepared to administer oxygen gas by inhalation which has given us great satisfaction in some of our cases. We keep an apparatus ready to generate the gas at a moment's notice. It will often tide over a desperate case till other measures can be instituted to help. We have been convinced that too much medication has been the rule in some cases, and while not ready to adopt the use of the "Bacterin" for the special treatment of this disease ourselves because, of our ignorance of its use, we are ready to be convinced when sufficient experimentation has demonstrated its reliability and value.

To summarize: 1. We think that many cases are unavoidably lost because they are unable to resist the encroachments of the disease, due to their poor physical condition and to abuses that their system has been compelled to undergo. 2. Prophylaxis, leading to the avoidance of such contions, most important. 3. Hygienic regulations including, best air obtainable, cool room, plenty pure water to drink, light bed covering as possible and frequent bathing. 4. The use of a few well-selected remedies for a definite purpose. 5. No alcoholic stimulants and none of any kind unless clearly indicated. 7. No food, better than forced feeding, for first days of illness and no active cathartics, bowels moving once in two or three days, while temperature is high, with very restricted diet, sufficient and to be secured, with enemas if possible.

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ELIMINATION of WASTE

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The word machine is usually applied to an apparatus, simple or complex, composed of like or unlike parts, which receives power in one form and gives it out in some other form. In this sense the human body is a machine, and a very complex machine at that. Both living and lifeless machines are alike in that their worn-out parts must be renewed and that power must be supplied to them to do their work. In the human machine both these requirements, that is, material for growth and repair and power for running, are supplied in the one form of food, and that, after all, is the only object in eating, although some people do not seem to realize this fact. Because nature has supplied special sense apparatus to make the necessary physiological functions enjoyable is no reason why the factor of enjoyment should be the only one considered.

As the human mechanism does its life's work, it, like any other machine not only consumes power but its parts deteriorate. It is the double function of the food we eat to make good this double loss. Some foods may only serve as sources of power, others for building up essential parts, while still others may serve both purposes.

But it is not our intention to speak of foods in this article, rather of their waste products. As the food is taken into the alimentary canal, it undergoes a continual working over and separation, both chemical and mechanical, resulting in a number of nutritious substances on the one hand and of waste products on the other. Both of these are taken from the alimentary canal by the circulatory system, and carried to their proper destination—in the one case to the tissues, in the other to the organs of elimination.

It would be of interest to trace these food products from the blood into the tissues, and then to follow the products of tissue activity back into the blood, and out of the body, and at some future time this will be taken up. But we are not concerned so much just now with the metabolism of the tissues, the total waste from which is inconsiderable, as we are with the metabolism of food substances, from which are derived most of the wastes excreted from the body.

Our food may be broadly said to consist of proteids, fats, carbohydrates, salts and water. In their passage through the body, the first three, after giving rise to various nutrient products which are retained and used, are substantially excreted in the form of three end products—carbonic acid, urea and water—if we omit unimportant side products. The salts and water ingested are for the greater part utilized, and the excess excreted in very much the same form as they are taken in, so that there cannot be said to be much metabolism connected with these two classes of food.

But many of the proteids contain sul-

phur; a smaller number carry phosphorus in the molecule. Phosphorus also exists in some of the nutrient fats. These two elements—sulphur and phosphorus—ultimately undergo oxidation, being converted into the respective acids, which later on, meeting with bases, are neutralized and become phosphates and sulphates, in which shape they leave the body. To these salts may be added others, such as the excess sodium chloride, which is eliminated unchanged, and the carbonates resulting from vegetable food, of which we shall speak later.

To recapitulate then, the principal waste products of food metabolism are urea, carbonic acid, salts and water. Three main channels are provided by which these may leave the body. These are the lungs, the skin and the kidneys. The small portion excreted in the feces may be ignored.

The greater part of the carbonic acid and considerable of the water are discharged by the lungs. Through the perspiration are lost comparatively small amounts of salts and urea, a very little carbonic acid, and a variable, but on the whole not inconsiderable quantity of water.

This elevates the kidneys, by means of the urine, to excrete the most of the salts, nearly all the urea, a very little carbonic acid, and a large amount of the water, its quantity depending to some extent on the relative activity of the skin.

For practical purposes, with the exception of the carbonic acid, the urine furnishes a very good criterion of the excretion of food wastes, especially the nitrogenous wastes, which are chiefly urea. It is not our purpose to go into details concerning this substance. It is the chief form in which nitrogen leaves the body; most of it is derived from metabolism of proteid food, only a comparatively small portion being due to tissue metabolism, and the normal amount excreted has been greatly overestimated owing to improper habits of feeding.

The small amounts of other nitrogenous products which may be demonstrated in the urine, are usually of nonimportance. Such are uric acid and urates, the various xanthin bases, kreatine and kreatinine, hippuric acid, etc. It is probably the intention of nature that all nitrogen should leave the body in the form of urea, so that the other substances mentioned are accidental, being either steps in the formation of urea, or decomposition products of the same. This is particularly true of uric acid, a molecule of which may be split up into two of urea, with an oxalic acid compound. This would seem to show that it was an incomplete urea. On the other hand, uric acid can be formed by the combination of urea with glycin, and it is possible that it may be formed in this way in the body.

Leaving urea for future consideration, we wish to dwell especially on the inorganic salts of the urine, and more particularly the chlorides, phosphates and sulphates, a subject which has been considerably neglected in text books, although their quantity is of considerable importance from a clinical standpoint.

The principal bases of these salts are sodium, potassium, calcium and magnesium. Just how the various acids and bases are combined has always been a matter of some uncertainty. That sodium chloride exists in large amounts is unquestionable. It is probably the most abundant salt in flesh-eating individuals. Most of the phosphoric acid exists as acid sodium phosphate, which in alkaline urine becomes neutral or even basic sodium phophate. The balance of the phosphoric acid exists as soluble calcium and magnesium phosphates. The remaining salts of importance, although in comparatively small quantities, are potassium and sodium sulphate and calcium chloride.

So far as origin goes, the phosphates

of the foods may be traced from three different sources. These are first, the phosphates already existing as such in the ingested food, second the phosphates produced from the phosphorus of such proteids as casein, oxidized to phosphoric acid and neutralized by sodium or potassium bases; thirdly, those formed in the same way from lecithin and other complex fats. Considerable of the phosphates in urine, however, are due to tissue metabolism, especially of nerve tissue, so that a large increase in these salts, not traceable to any food, usually denotes an excessive breaking down of nervous tissue, or in other words, increased nervous strain.

The chlorides, which as already stated, are chiefly those of sodium, are derived, first, from food containing them, which means practically all kinds of food, especially of animal origin. The second source of supply is in the salt eaten as much in the form of condiment or preservative. The amount of chlorides excreted in 24 hours normally is much lower than usually stated.

The source of sulphates is proteid food, particularly meat, and they are formed from the sulphuric acid produced by the liberation of the sulphur, just as phosphates are formed from phosphorus. Practically no sulphates exist already formed in any food, as their bitter taste would make any such food unpalatable.

In a general way, where the individual lives on an excess of vegetable food, the sodium and potassium bases predominate, while if animal food is in excess, calcium and magnesium will be increased, although in all cases sodium is probably in excess of all other bases.

Ammonia does not occur as a base under normal circumstances. Only when on an excesive meat diet the vegetable bases (sodium and potassium) are insufficient to saturate the acids formed, is ammonia called upon to neutralize these acids. In such a case, ammonia salts appear in the urine, and the total ammonia index, normally low, undergoes a considerable rise. At the same time, owing to the diversion of the ammonia, less urea is produced. Of course, in decomposed urine, from standing either in or outside the body, ammonia is produced from the breaking down of urea, with resulting ammonium salts, such as ammonium urates, ammonio-magnesium phosphate, etc. Such urine is alkaline, while in the first case it is acid.

Besides chlorides, phosphates and sulphates, other salts occur in the urine at times. These are principally carbonates and oxalates. Traces of nitrates have been claimed by some observers, but even if present are in such minute amounts as not to be worthy of any serious attention.

Carbonates usually occur in alkaline urine but are by no means confined to urine of this reaction, as a specimen may be distinctly acid and still contain carbonates. In such a case they are acid carbonates or bicarbonates. When they are due to a vegetarian diet they occur with fixed bases, sodium or potassium, rarely calcium or magnesium. The various vegetable acids, acetic, malic, citric and tartaric, are during their metabolism in the body converted into carbonates, and if there be a shortage in mineral acids, due to absence of proteids from the diet, the carbonates are excreted instead of being used to neutralize the acids. In such a case there is a corresponding reduction of sulphates and phosphates. Carbonates also occur in urine alkaline from decomposition. In such a case the base is ammonium, and they are formed by the decomposition of urea. This is due to an organized ferment, the micrococcus ureae.

The only oxalate ever found in urine is calcium oxalate. It must be considered as being formed at some time during the metabolism of proteids in the formation of urea, although the con-

nection is not quite clear. Administration of oxalates causes its appearance in the urine, these occurring in small quantities in such vegetables as rhubarb. But the appearance of calcium oxalate is by no means dependent on the ingestion of foods containing oxalic acid, and it must be considered as a synthetic product.

Probably one reason why more attention is not paid to the salts of the urine is the somewhat tedious and slow method so far in use for estimating their quantity. Qualitative tests are simple but unnecessary. We know, without testing, that urine contains phosphates, chlorides and sulphates. What is wanted, however, is their quantity.

And here again, the too prevalent habit of examining single specimens of urine, and expressing the salts in percentages, is absolutely worthless, unless the daily output of urine be known and the specimen represents a mixture of the same.

The directions given for the estimation of the various salts by titration with empiric solutions are usually too deep for the average physician. There is too much hair-splitting; they are too ultra-scientific. The medical man is not interested in traces; he does not care to get an estimation correct to six decimal places. For all practical clinical purposes, the daily amount calculated to two or even one decimal is sufficiently accurate.

To recapitulate then, the salts of the urine are of considerable importance if their daily amount be estimated and the findings correctly interpreted. And this method need not be the time-consuming procedure usually directed, for methods have been devised and are in use, which bring the time required within practical limits, without losing any accuracy.

But their amount may and does vary in specimens obtained at different times of the day, and it is a waste of time to estimate salts in a single specimen, and totally erroneous to draw conclusions from such findings.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

A girl told me she could not recollect the time when she had no headache. She had been treated for years without avail until I took her to have her eyes tested and fitted with glasses, when the headaches left her. Eye specialists assert that all headaches come from imperfect eyes. The removal of adenoids and opening up of the nasal passages cured one girl of headaches. Nose specialists say all headaches come from obstructed air passages.

Opening the Eustachian tube and treating the hearing cured another of headache. Ear specialists say all headaches come from the ears. Gynecologists maintain that all headaches come from genitourinary maladies, since many cures follow their work.

So many headaches have been cured by emptying the bowels and stopping fecal toxemia that my friend is justified in his view that all headaches come from that cause. Very naturally each of us sees what he sees, and reasons therefrom. It is up to the doctor unlimited to see what all these see, and unite the partial truths each sees from his little window.

When headaches depend on disordered stomach an emetic is often the best remedy. Give pure emetine a milligram every five minutes, in warm water; or a seidlitz powder, each part swallowed separtely so as to disengage the gas in the stomach—a good non-nauseant emetic.

Gastric fermentation stops with a

little calcidin—a grain or two. For continuous fermentation in stomach or duodenum give zinc sulpho-carbolate five grains every hour till relieved. For the headache and nausea of acute gastric cataarh, and for constipation headaches, give strychnine arsenate, gr. 1-250 every fifteen minues till full effect or relief.

The headaches of sedentary meat eaters give way to atropine gr. 1-5000 every half hour till mouth dries, after emptying the bowels effectually. For blinding headaches in the supraorbital region, nausea, vomiting, deranged liver, give iridin gr. 1-6 every half hour till it acts on the bowels. For bilious headaches with vomiting give byronin gr. 1-64 every hour till effect; or calomel gr. 1-10 every half hour followed by saline.

Periodic headaches are often best relieved by picrotoxin gr. 1-128 every hour for three doses. Sick headache with dark offensive stools is the indication for podophyllotoxin gr. 1-12 every hour for six doses; followed by saline. Atonic gastric disorders with headache are sometimes quickly relieved by sanguinarine gr. 1-64 every hour until relieved. Threatened attacks of sick headache may be relieved by a full dose of calomel followed by a full saline laxative and a cold enema; but a laxative that merely fluidizes the stools will make the ache worse.

Headaches of gouty, acidemic, plethoric sedentaries may be prevented by a dose of colchicine at bedtime; gr. 1-128 or 1-32. For headache with disturbed stomach and relaxed circulation give soda sulphocarbolate gr. v., phenacetin gr. ijss, sparteine sulphate gr. 1-6 every hour till relief. For severe congestive forms as with menstruation, give veratrine gr. 1-128 every half to one hour till pulse tension relaxes or relief comes.

For brow pains, intolerance of light and sound, or movement, may be with uterine or gastric derangement, in young women, give atropine valerate gr. 1-500 every fifteen minutes till mouth dries or relief. For the nocturnal aches of syphilis give calomel gr. 1-64 every half hour for ten doses each day. Climacteric headaches are relieved by ext. cannabis gr. 1-6; and better by gelseminine gr. 1-250 every half hour till sedation.

Very bad cases of spasomdic tic may be relaxed by nicotine, better by piloarpine enough to sweat. A bad case of tic douloureux is employing an osteopath; meanwhile her bowels are only open every four days! Photophobia, throbbing from back of neck to brow, nocturnal exacerbations, tender scalp, unbearable intensity; iodoform gr. 1-64 every ten minutes until relief.

Headaches with flushes at the menopause or during menstruation may be relieved by glonoin, or more durably by gelseminine. Headaches with cerebral hyperemia, suppressed hemorrhoids or other fluxes, in plegmatic plethorics, demand aloin, jalapin, colocynthin, and especially veratrine, enough to restore normal tension. Congestive headaches with fever demand aconitine or veratrine enough to relieve; without fever, gelseminine, enough.

Persistent dull headaches in folk of full habit, feeble circulation, dull face, ammonium iodide five grains every four hours. Nervous headaches that do not need gelseminine need atropine valerate. Headache, pallor, cutaneous vasomotor spasm, reflex, fatigue or mental overwork or strain, menstrual, pains over brow and in eyeballs, call for atropine valerate gr. 1-500 every fifteen minutes till face flushes.

Clavus hystericus and gastric atony with headache are relieved by brucine gr. 1-64 every hour or two. For chlorotic headaches give solanine gr. 1-64 every fifteen minutes, with iron and arsenic bromides in the intervals. The gastric sick headaches of hysteric women and delicate literary men give way to silver oxide gr. 1-6 seven times.

a day. Headaches coming during administration of iron are relieved by nickel bromide or camphor monobromide; dose to effect.

Cases with extreme facial pallor demand glonoin, atropine and strychnine arsenate aa gr. 1-250 every ten minutes till relaxation. Throbbing supraorbital aches may subside under arsenic bromide gr. 1-64 every two hours. Rheumatics and nervous hystericals, headaches at menstruation, give way to macrotin gr. 1-6 every hour or two.

Headaches from hunger, cold, menstruals, nervousness, exhaustion, nauseas not due to gastric maladies, but to vital depression, respond to caffeine gr. 1-6 every ten minutes in hot water. Uricemics with frequent headaches do well on lithia salicylate three to seven grains a day in divided doses. For headache due to cerebral exhaustion give zinc phosphide gr. 1-6 t. i. d. for a week; follow with neuro-lecithin for a month.

Reflex, gastric, cardiac, pulmonary or menstrual forms respond to zinc cyanide gr. 1-32 every five to fifteen minutes till effect. The headaches coming quickly to excitable people subside under caffeine valerate gr. 1-6 every half hour. Headaches attending atheroma are quickly relieved by ergotin gr. 1-6 every hour till effect; better by veratrine usually.

Many mild forms respond to cypripedin or scutellarin when usually more powerful drugs are employed; small frequent doses. To break up severe and inveterate attacks resisting ordinary treatment give zinc phosphide gr. 1-6, quinine arsenate, iron arsenate, aa gr. 1-6, strychnine arsenate gr. 1-30; together every four hours. Pressing pains in the occiput are quickly relieved by muscarine, gr. 1-64 every five minutes.

Headaches are often due to local defects or diseases of eye, ear, nose or other special organs. Otherwise they are due to toxemia, and that means constipation or other cause of hemic impurity, or else defective renal elimination. Clear out the bowels, disinfect them, and keep them clear and clean. Test the renal power, ascertain how much solid matter the kidneys carry out each day, and if there is in the urine albumin, sugar, indican, skatol, or bile; this gives the indication.

For toxemic headaches the remedies are the vascular relaxants—aconitine, veratrine, gelseminine, with free bowels always. For nervous headaches and those due to over excitement or worry or work caffeine valerate is the remedy; small frequent doses.

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The accompanying is a picture of Baby H. born at Monteith, Iowa, Oct. 22, 1907. Photo taken Oct. 25th, 1907. Removal of cyst Oct. 20th, 1908. The cyst contained bloody serum and was

well supplied with blood vessels at the base. The tumor extended from the median line anteriouly, to the median line posteriorly. The base was 2 to 3 inches in width. I never saw anything like it and failed to classify. The child died of pneumonia complicating pertussis. (Please note, comments are acceptable as well as photos of similar cases or of any interesting case.)

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

It is generally reckoned that the first stage merges into the second as the cervix becomes fully dilated. This usually occurs at about the same time as the breaking of the bag of waters. In many cases the waters break earlier or may be preserved much longer than the time of full dilation. Internal examination of course will reveal that the ring of the os has disappeared and has slipped up over the head. It is rarely necessary to resort to internal examination to determine this point. External examination will show that the head has descended well into the brim of the pelvis and the character of the pains will have changed at about the time of the end of the first stage. The nagging pains of the dilation stage, felt at first in the front of the abdomen and later in both back and abdomen, will have given place to the longer and more effective pains confined solely to the back and accompanied by expulsive contractions of the voluntary muscles of the abdominal wall. If the first examination has revealed a normal position (occiput left anterior or occiput right anterior) and the pelvis is normal in its measurements, the determination of the exact time of the beginning of the second stage is not worth the danger of an internal examination.

During the first part of the second stage, while the head is above or just engaged in the inferior strait, the woman may be permitted to assume any posture she pleases. She will usually prefer to recline in bed, most of the time on her back. At this period she can aid herself much if she be encouraged to hold her breaths during the pains and to bear down. She is often aided in this expulsive effort by pulling on a sheet attached to the foot of the bed. If she pulls on the hands and arms of an assistant the latter will become as exhausted as the patient before the labor is terminated. The doctor, who may be called upon before the end, to use his brains and his muscles skillfully, should not allow himself to be used thus uselessly as a pulley rope.

When cramps in the calves appear it will be known that the head is pressing upon the sacral plexus of nerves and therefore that it is getting low in the pelvis. When the head begins to press upon the perineum it will be known that its largest diameter has passed the inferior bony strait and it will be evidenced by the visible bulging of the perineum and the stretching of the anus. At this time the woman will often express a desire to empty the rectum but on no account must she be allowed to sit on a water-closet because of the danger of dropping the child into the hopper. As soon as the head begins to bulge the perineum and the vulva the woman should certainly remain in bed and the obstetrician should prepare himself for the delivery and should se that his sutures, ligatures, etc., are ready for use.

Lacerations of the perineum are inevitable in a certain percentage of cases, perhaps fifteen per cent. One who boasts that he never had a torn perineum in a full term labor does not recognize a perineal laceratiion when he sees it, does not look for it, or else does not resemble George Washington so much as he does Annanias. The gynecologist is often called upon to operate for prolapse resulting from lacerations of the pelvic floor occurring in the practice of such skillful gentlemen. On the other hand even the most skillful will have their proportion of lacerations, although he who conducts

his labor with the most skill will have the smallest percentage.

The safety of the perineum depends upon the promotion of relaxation of its tissues and by the lessening of the tension to which it is exposed during the pasasge of the child's head. There is a larger proportion of torn perineums in hasty labors, especially in those which are terminated by operation. To promote relaxation one should see that the head does not pass through the vulva cleft too rapidly. If there is a tendency to rapidity, the patient should be ordered to breathe out her pains instead of holding her breath and bearing down. Chloroform aids much in promoting relaxation and in delaying the passage of the head until the tissues have had time to relax. The anesthetic may often be pushed to full degree at the last, as the head is passing through the vulva and over the perinum. It may be held back during the pains and finally may be shelled out during an interval by pushing upon the forehead through the space between the anus and the coccyx with the fingers, while the thumb or the fingers of the other hand push the occiput towards the pubes. If the patient is under the anesthetic at this time the maneuver is more easily performed. If the perineum, in spite of all precautions, should be torn the suturing may be done during the continuance of the anesthesia, so that the patient may wake up with her troubles all over.

In this connection it may be well to consider the Walcher posture both as an aid to labor and as a preventive of lacerations of the perineum and pelvic floor. This posture is attained by bringing the patient's sacrum to the edge of a table, having an assistant hold her from falling by the shoulders, and allowing the legs to hang towards the floor. During the passage of the head through the superior strait the weight of the legs will tilt the pelvis forward so that the anterior-posterior diameter (conjugate) of the superior strait will be increased by nearly one centimeter. This advantage will often mark the difference between a possible and an impossible passage. While the head is passing through the inferior strait the legs should be brought upwards so that the woman is in the exaggerated lithotomy posture, since this tilts the pelvis backwards so that the inferior strait gains about as much in its antero-posterior diameter. Then the legs should be allowed to hang down again in the Walcher posture while the head is passing through the outlet of the soft parts, since this relaxes the parts about the perineum and the posterior wall of the vagina itself.

Many authors advise episiotomy when the accoucheur is certain that the perineum will tear. Episiotomy consists in making an incision on each side of the vulva about two-thirds of the distance from the anterior to the posterior commisure at right angles to the arc of the distended circle of the vulva. The intention is to prevent a laceration through the median line which may extend deeply or even into the rectum, by cutting to either side into structures where there is less danger. The arguments against episiotomy are: first, no one can tell with certainty that a given perineum will tear; second, the tear may already have begun in the mucous membrane of the posterior vaginal wall before the head has passed and the episiotomy will only add more wounds which may prevent any repair; third, the episiotomy wounds themselves may extend into the deep structures, even to the levator ani and thus injure the pelvic floor; fourth, the serious tears are those which, while they may be in the median line externally, are deeply to one or both sides within the vagina and extend to the supports of the pelvic floor. The operation of episiotomy was invented and most strongly advised when the profession did not realize that the chief dangers in lacerations

of the vulvar outlet were to the support of the pelvis through injury to its floor muscles and fascia and not to external wounding of the comparatively insignificant perineal body.

As soon as the head is born the region about the child's eyes should be wiped with boric acid solution or sterile water and the mouth should be cleared of mucus, etc. The head should be allowed to rotate externally by itself until the occiput lies to that side of the mother at which it entered the pelvic inlet. Thus the shoulders will rotate within the pelvis spontaneously. Although the face of the child will become cyanotic that is no evidence of asphyxia but merely of pressure of the soft parts about the neck. The cord is then usually not impinged upon and the placental respiration is not yet inhibited. In most instances the shoulders will be expelled spontaneously within a few minutes. One should feel about the neck to see whether the cord is coiled around it. If so he should pull it down gently and slip it over the head, afterwards waiting for natural expulsion, feeling the pulsation in the cord as an indication of the condition of the child. If the expulsive pains are unduly delayed, one may extract the shoulders by pulling the head gently downwards until the anterior shoulder appears at the anterior vulvar commisure and then swinging the head in an arc upwards until the posterior shoulder passes over the posterior commisure. If this is done slowly and gently there is little danger of tearing the perineum if the head has not already done so or of increasing the depth of the tear if the head has already caused a laceration. The trunk, in a child of normal development, will almost fall out without further effort.

Authors differ as to when the cord should be tied. Some advise immediate ligature and severance, others advise waiting unti lthe pulsation therein has ceased, on the ground that the child gets possession in its vessels of the blood in the placenta. This blood amounts to a few ounces, perhaps a matter of some importance to the child. This placental blood reaches the child's body by respiratory aspiration and also by uterine pressure upon the placenta. The size of the placenta is also reluced by just the amount of blood which enters the child. At least in puny infants it is desirable to wait. If the child is asphyxiated or if there is other reason on its behalf or on behalf of the mother for haste, the cord should be clamped at once with an artery forceps and cut. A hand of the obstetrician, a nurse or an attendant should follow the fundus of the uterus down to insure good contraction.

The employment of oxytocics must be considered. The most potent is ergot. Since, however, ergot acts to cause tetanic contractions of the uterus, if it acts at all effectively, it is bad practice to give it until the uterus is empty. A tetanic contraction of the uterus such as is produced by ergot in effective dosage is dangerous to the mother because of danger of rupture or of laceration of the soft parts of the canal and to the child because the uterine pressure upon it is continuous and allows no rest between pains so that the circulation in the cord can be maintained. This continual pressure will cause asphyxia. Quinine and alcohol are recommended by some to increase the force of the uterine contractions. To be effective such large doses are required that the accompanying effects are too disagreeable for justification of the drugs. Of late pituitrin has been recommended as a stimulant to uterine muscular action. This drug is an extract of the pituitary body of animals, cattle or sheep, and may be given during all stages of the labor in doses of 0.5 to 2 cm. by mouth or half that much subcutaneously. It may be repeated every few hours, depending upon the effect. This medicine has not

yet been much used in this country but has physiological basis for its employment. It is probable that the action of the uterine muscles in normal cases is influenced by the secretion of the pituitory body of the individual. Further use will better demonstrate the value of the extract.

CARE OF THE THIRD STAGE OF LABOR.

Hemorrhage is the main danger which may occur during the third stage of labor, evn in a case previously apparently normal. The contraction of the uterus should be maintained by frequently massaging the uterus at the fundus through the abdominal wall. The cause of bleeding at this stage is relaxation of the uterine muscles. This may have been provided against during the second stage by seeing that the labor progressed, aiding the passage through the pelvic canal by massage through the fundus, by changes of posture, and by forceps if necessary. The hand on the fundus as soon as the child is born, with gentle massage whenever the uterus relaxes unduly will prevent dangerous relaxation and consequently hemorrhage, the retentios of clots, and the occurrence of embolism.

How long to wait before taking measures to expell the placenta is a moot question. From fifteen minutes to an hour is not too long to allow the separation of the placenta from the uterine wall. The exact method of nature's separation is not definitely known, but it is probable that the muscular contractions have much to do with it. Usually within less than half an hour the contractions become suffiicently strong to be readily perceptible to the hand on the abdomen and to cause subjective pains to reappear. Nature will in almost every case expell the placenta without any artificial assistance, but there is no harm in massaging the uterus externally to assist and to save time. If the placenta has not come away within half an hour or an hour Crede's method of expression may be employed. This consists in grasping the uterus through the abdomen with one or both hands, the fingers above and behind and the thumbs in front and below, and squeezing the uterus. The direction of pressure should be towarsd the tip of the sacrum, because that is the axis of the uterus. One can feel the uterus becoming smaller as the placenta passes out. The downward pressure usually also expels the afterbirth from the vagina as well. If the uterine tumor is felt to be small, about as big as a baseball and about as hard, the placenta is probably in the vaginal cavity and it is justifiable to draw it out by gentle traction on the cord. This is all the pulling on the cord which is ever proper and should be only with the extremest gentleness. Never should a placenta which comes hard be pulled upon by traction on the umbilical cord. Such traction may break the cord off at the placental attachment, in which event it will be difficult to find the placenta should it be necessary to perform manual removal. A more serious danger is that of inverting the uterus.

As the placenta comes out of the vulva a sterile basin should be placed to receive it. It must be examined at leisure in a good light before the physician leaves the house. Place the placenta and membranes in a basin of water and pass the hand through the rent in the membranes to the top of the bag. Hold the bag up to the light and see whether any placentae succenturiatae are present or vessels running to such a supernumerary placenta. Also see whether there is any portion of the placenta or mebranes missing. Unless a large portion of the placenta is retained it is seldom good practice to go up into the uterine cavity after it. Since it will come away spontaneously in most cases, it is not well to risk infecting the uterus by the hand passed into it in order to safeguard against a very problematical infection later in the

puerperium. One examines the placenta and membranes so as to be in a position to know the probable cause of infection or bleeding should these symptoms occur later. Forewarned is forearmed.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D., M. E., Lima, Ohio

An article by Dr. Schmidt in the Berlin Clinic, describes experiments along this line which were carried out by the author to elucidate the question as to whether small doses of the X-rays exercise any degree of destructive effect, such as that produced by strong applications, or whether, instead, there results a stimulus to cell proliferation. In experiments on young plants he found that, while strong applications of the rays interfered with proper development, small doses, on the contrary, stimulated the growth of the plants to an extraordinary degree. The same principle was found to hold good in the case of animal cells. One-half of a flabby, sluggish ulcer on the author's forearm healed completely within twelve days under the influence of weak X-ray applications, whereas the remaining untreated portion required about a month. From observations such as these it would appear, according to the author, that weak applications of the rays to malignant tumors can only prove harmful and should be avoided. Strong applications are, on the other hand, an-

The Amateur Electro-Therapeutist is as much of a nuisance as he is an involuntary humorist. Some weeks ago the writer was invited to inspect and test a new static machine which a physician of his acquaintance had purchased. The doctor was very enthusiastic over the acquisition, and displayed it to his friend with considerable pride. Every patient was given a crown-breeze as a necessary adjunct to the treatment. Whether the patient wanted an aching corn relieved or a vaginal speculum introduced, whether the case was one of pharyngeal catarrh or tapeworm, the crown-breeze was the inevitable feature of the treatment. When the writer asked the crown-breeze-fiend why he did not make a systematic study of the subject and use the static machine in keping with the therapeutic indications of static electrification and the requirements of the patient's condition, the doctor smiled and in a knowing way replied: "The static machine is a fine piece of furniture, and it is all the rage just now. I had to be in the swim, hence I bought the machine——"

There it is! The old and often-expressed notion that electrification, outside of electrolysis and cautery, is only a psychic factor, still lurks in the minds of the majority of the profession. It is classified under the head of suggestive therapeutics. Why is this notion so prevalent and what can be done to educate the professional mind?

That the manufacturer of electrical goods is just now enjoying his harvest days, is admitted on all sides. Laity and profession are suffering from an acute electromania. Everybody is dabbling in electro-therapy. It goes without saying that most of this work is done by men who know nothing of either electrification or its therapeutic uses. They lack the technical skill as well as the scientific knowledge which the subject pre-supposes. It stands to reason, therefore, that most of this electro-therapeutic work is badly done. It is not surprising that the results are either nil or uncertain. This state of affairs is most unfortunate because it does a grave injustice to an interesting branch of medical practice which possesses intrinsic merit enough to give it

a place in the array of therapeutic methods.

The amateur electro-therapeutist is ably seconded by the ultra-scientific theoretical electro-therapeutist. Both mean well and both are trying to kill the goose that lays the golden eggs. The out-and-out, first, last and all-the-time, dyed in the wool electro-therapeutist, especially if he wields the pen and writes a book on the subject, classifies, theorizes and systematizes so much until there is nothing left of the subject. Electro-therapy is made to cover the whole range of medicine. Its subtle agencies are made to correspond in their various applications to every phase of pathological condition and process. Every disease and symptom has its electro-therapeutic indications. Electro-therapy ceases to be a therapeutic method, but expands until it assumes the ponderous proportions of a system of medical practice. Could anything more absurd and ridiculous be imagined? These men who write these long-winded treatises on static electrification forget that electrification is but one of the tools with which we work. How much more they could benefit the cause if they would try to reduce the practical aspect of the subject to a few tangible principles and logical applications instead of multiplying details ad infinitum until the whole subject is covered with a haze of mystery which is indeed in strange contrast to the logical clearness and exactness of demonstration to which modern medicine aspires. Let us remember that electro-therapy is only a part of the whole. Let us be mindful of the fact that a method can never be a system. Let us proceed in keeping with these facts and we will gain for electro-therapy the place it so richly deserves, in spite of bungling amateurs and mystifying theorists.

MEDULLARY CANCER

By E. M. HOOVER, M. D.
Halstead, Hansas

In 1886 when I first located in Halstead I was called to see a woman aged twenty-two years, mother of two children. This woman had been a sufferer from early girlhood. When she first started to school a lameness was noticed and a limp on upper third of right femur was felt. Her parents counseled different doctors, and took her to the Surgical Institute, Indianapolis, Indiana, that was quite prominent in this country forty years ago but the growth continued and at twenty-two years of age a tumor measuring forty-four inches around the upper part of right leg, invaded the hip joint and lapped over into the right groin. She was poor and emaciated, her whole body had been consumed to build and furnish material for the great tumor that had fastened itself to her. The skin of this tumor differed very little from the rest of the body. The tumor was undulated to some extent. In a short time after I first saw this case a small black spot made its ap-

pearance on the outer and right side of tumor. This gangrene spread and a sloughing commenced, a watery dis-

charge oozed from this opening. I had an oilcloth ordered and placed under tumor and body of the woman, turned up the outer side of oil cloth to make a trough to carry this fluid away; elevated the head of the bed and had a pint to a quart of fluid drained from this tumor every twenty-four hours; the stench became almost unbearable. Sulphur and coffee were burned in the room to counteract this awful stench. This opening became so large I could have put my head into it.

One day the nurse was placing a bedpan under the patient—the femoral artery broke and life was soon gone and the great sufferer was relieved. I held a post mortem and cut out the upper third of femur, the joint was all eaten up or so fragile that the parts would not hold together. In getting into the bone I took a common small fire shovel and scooped out a chamberfull and a large candy bucket full of a jelly like mass. A man held a shovel of coals on which he put coffee to burn, so I could work. The stench was something fierce. This tumor was fifteen years in the growth and decay. One of the remarkable things to me was the cheerfulness of the patient. She would sing to her children, always kind and a smile for everyone. Also the largeness of the growth, its rapid decay.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
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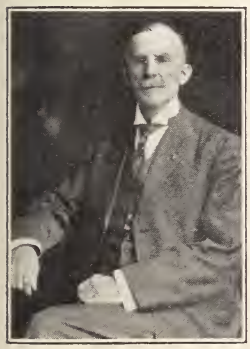

Whooping cough is a disease that the medical profession has far too complacently and persistently pronounced beyond their help, except to slightly modify its intensity. Frequently suggesting some proprietary reemdy and proffering the comforting assurance that it is a self-limitel disease and seldom or never results fatally, etc.

Every medical practitioner of any considerable experience has seen many cases that led to dangerous conditions and complications and resulted in distressing or fatal terminations. The frequent cases of haemorrhage are important, some of them of the cerebral variety, causing temporary or permanent paralysis, strabismus, etc.

The cases of bronchitis and pneumonia accompanying or following this disease are more than usually troublesome and dangerous. The purposes of this paper are to emphasize the danger of the complications of the disease and the sequelae, to advise and urge a compliance with the laws requiring its quarantine and to offer a remedy that will give results in modifying and radically curing it.

In a recent issue of the Sunday Record Herald we find the following: "Notwithstanding that whooping cough is a preventable disease, there were 981 cases reported and fifty-five deaths from this disease in Chicago last year. During the last ten years there have been 2138 deaths, says the weekly bulletin of the Chicago health department. (Attention is called to further statistics found in our April number, page 128 in the paper on measles.) It should be noted that this mortality record is of the deaths that are directly traceable to this disease and does not include the much greater number reported as dying from some other sickness which followed an attack of pertussis, due to neglect of the osiginal disease and without reference to the primary or real cause of death. It is important to remember too that not nearly all of the

cases are reported, or even referred to a doctor for reasons stated in the early part of this paper. It is a highly contagious disease especially in it's earliest stages. The germ has not been positively identified, but it is known to be caused by one. One attack usually protects against a second one. The prodromal stage is about seven to ten days in length. Epidemics of it often precede or follow those of measles or scarlet fever.

Epidemics usually make their appearance in the early spring and attack all ages. It is a more serious disease in the very young or the aged for obvious reasons. It is ranked as third among the contagious diseases. Every case must be reported to the department of health and quarantined, according to law, until the spasmodic stage of the cough has passed, which if the disease is neglected, may be for a period of eight or more weeks. Isolation required of those exposed, for two weeks from last exposure.

German investigators discovered that the disease was due to the ravages of a germ, within the larynx over twenty years ago and tried to use direct application of germicides to the infected region, under the epiglottis, meeting with the difficulties that can be easily understood, they sought for an agent that could be safely inhaled and still be germicidal in its action. Their efforts were finally rewarded with success in the use of a 1% solution of formaldehyde in a watery or steam spray. We commenced its use in 1893 and have been continuously using it since that time with universally satisfactory results. The treatment is a suitable one at any stage of the disease and is also good for a similar cough, due to subacute bronchitis or to other causes. The administration of the remedy to patients from 1 to 5 or 6 years of age is not as easily accomplished as one could wish. We have usually placed the one per cent solution of the remedy, having diluted it with distilled water to that strength, in an atomizer and making a cornucopia of one or more thicknesses of paper, of a size that the larger end would fit, rather closely over both the mouth and nose of the patient, with the smaller and outer end open to readily admit the air and permit deep inspirations. The tube from the atomizer is introduced in the side of the megaphone-shaped inhaler and the vapor introduced with the patient instructed to take deep inhalations. The eyes should be closed and in very young patients they can be covered with a folded cloth. This is done because the vapor is irritating to the conjunctiva. There is a burning sensation in the air passages of a greater or less intensity according to the susceptibility of the patient and in some cases a weaker solution can be used. In very young children and infants the vapor can be introduced under a cover, thrown over the child's basket or crib, near the feet and used while they are sleeping. I have had mothers take their children into a small closet and so saturate the air with the solution as to accomplish the desired effect in that way. The good effect is quickly noticed and if the remedy is given in the early stages of the disease, it will disappear in a few days. Usually, from ten days to two weeks treatment is required, though we have seen cures accomplished in less time. My personal experience is that many practitioners, knowing of this treatment consider it too good to be true, or too much trouble to attend to it, or under the necessity of abiding by former statements, to the extent of ignoring it altogether. There is not the slightest doubt in my mind of the efficacy of the treatment nor in the minds of scores of my patients, or of those who cared for them when sick. No disease is too trivial to have our best attention and this is far from being a trivial disease.

DEPT. OF GENITO-URINARY DISEASES

Conducted by
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Chicago, Ill.

The ureter as a primary cause of blood in the urine is very infrequent, any hemorrhage arising from it usually being due to a descending or an ascending involvement. In fact anything affecting the kidney can involve the ureter, likewise the same of bladder excepting stone which would not ascend. It is also possible to have hemorrhage due to hyperemia, etc., caused by contiguity with growths or infections surrounding ureter.

The following comprise the main causes of bladder hemorrhage:

1.—Acute or chronic cystitis, regardless of the organism.

2.—Ulceration of the bladder which is either an exciting cause or sequelae of a cystitis with a possible exception of a few cases.

3.—Tuberculosis of bladder this as in renal tuberculosis microscopic blood is characteristic and can be said to be always present, at the same time may have hemorrhage in marked amounts but not frequent.

4.—Calculus. As a general rule microscopical will always be present with vesical calculus. Calculus, macroscopical blood probably frequent. The exception in calculus would be an excysted stone which at this stage would not necessarily cause any haematuria.

5.—Tumors of the bladder. Of all kinds benign and malignant cause haematuria of varying degrees.

Under this classification, papillomata are most frequent cause, the haematuria may be intermittent and marked, then again be entirely absent for a long period. Papillomata are much more common than ordinarily supposed and should always be considered painless or symptomless haematuria.

6.—Prostatic Hypertrophy and congestion is a frequent cause of haematuria either microscopical or macroscopical.

7.—Adhesions, pressure from tumors, etc. In haematuria, especially microscopical the fact must not be overlooked that pressure, displacement, or an infected focus adjacent to bladder may be the cause. The majority of these cases occur in the female where pelvic disordrs are more frequent.

Haematuria from the urethra. Any acute or chronic urethritis can produce blood in the urine, probably the most common cause being acute posterior urethritis.

B.—Stricture is not a common cause of haematuria unless following dilatation.

C.—Condylomata both in anterior and posterior urethra, chancroid and chancre.

D.—Calculus passing through the urethra and injuries which would be self evident.

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ARTERIOSCLEROSIS.

In an article by Dr. Satterthwaite, on the treatment of hardening of the walls of the blood vessels, the electric treatment is gone into in detail, and in giving the technique the following method is recommended: Give patient light bath for a few minutes, bringing blood to surface and causing sedation. Follow this with static breeze for five to ten minutes—helpful in asthenia. Then apply high frequency current for ten to fifteen minutes. Diminution in arterial pressure follows. Seance should always cease when pressure falls to normal, otherwise harm may result. In intestinal atony complicating arteriosclerosis, faradic current, applied over abdomen, may be helpful. Mercury, iodine, iron and arsenic also may be administered, according to ind cation.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
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In the case of a normal sighted person the two sets of visual impressions received by the two eyes are fused in the brain into one picture. In order that fusion may take place the directions of the two visual axes must accurately correspond. The cerebral faculty of fusion being perfect, the oculomotor apparatus will make great efforts to secure this accurate co-ordination. If one image be displaced by putting a prism before one eye, the relative positions of the eyes will be readjusted so that the two images may still fall upon corresponding points of the retinae. A want of balance of the motor apparatus will cause not a squint but a heterophoria. If, however, the control of the fusion faculty be temporarily withdrawn—for example by covering one eye—the eyes will deviate. If the eyes are hypermetropic there will be a tendency to excessive convergence during accommodation, but in the interest of binocular vision this tendency will be kept in check. If the eyes are forcibly compelled to deviate—for example, by paralysis of an external rectus muscle—the patient will have persistent diplopia. If the fusion faculty be absent there is no reason for a perfect accord in the directions of the two eyes, any disturbing factor, such as hypermetropia, motor unbalance, mental disturbance, etc., will give rise to a squint. There will be no diplopia because this person is only able to receive impressions from one eye at a time.

The exception tests the rule. Here is one. A squint which dates from birth must be essentially a motor defect, because it appears before the time at which fusion should begin to develop. If the deviation is constant and unilateral, and if the fusion of the deviating eye is not forcibly exercised within the first few months of life, this eye will subsequently be found to be extremely and incurably amblyopic. By very early treatment, consisting of occlusion of the fixing eye, and perhaps operation, I have in several of these cases succeeded not only in getting good vision in each eye, but in enabling fusion to develop spontaneously.

Why is it in the majority of cases squint does not appear until the second or third year? I believe that the potential faculty of fusion is rarely entirely absent (just as dumb children usually have some power of speech). This very weak fusion faculty may suffice to keep the eyes straight in the absence of adverse influences, but is powerless to counteract the strain of illness or of hypermetropia during school work.

A motor unbalance as great as 15 degrees, may perhaps give rise to an esophoria, but no squint, or with a defect of, say, only 2 degrees, there may be a constant deviation. Of those who regard squint as a muscle defect one would ask, how can this be explained, except that in the first case the fusion faculty is perfect, and in the second not? Those who regard refractive error as the prime cause are confronted by the question, Why do not all hypermetropes squint?

THE AMBLYOPIA OF SQUINT.

In at least 90 per cent of the cases of amblyopia in a squinting eye the amblyopia is acquired from disuse. I believe that I have proved this beyond a doubt. In the rare cases of amblyopia without squint, or in recently developed squint (and therefore presumably

congenital), the amblyopic eye usually has a high degree of astigmatism while the other eye has none. The question suggests itself—May the amblyopia even in this case be due to the patient's confining his attention to the non-astigmatic eye, and would optical correction in infancy have saved the vision of the astigamtic eye?

TREATMENT OF CONVERGENT SQUINT.

The objects of treatment are—to prevent or to cure amblyopia exanopsia, to remove the deformity, or to give the patient binocular vision. The therapeutic measures at our disposal are—atropinizing the fixing eye only, occluding the fixing eye, correction of refractive error, fusion training, operation.

If the deviating eye is able to fix when the other eye is shaded, atropine ointment, 1 per cent., should be put into the fixing eye only every morning. This, by suspending the power of accommodation in the fixing eye, causes the child to use the deviating eye to look at all very near objects, and so the eye is efficiently exercised and its vision, as a rule, rapidly improves. The atropine should be continued in the fixing eye only until the originally deviating eye comes to be used, not only for near vision, but for distant vision also, (showing that the sight is now normal, or nearly so), or until no further improvement can be got. The treatment is no trouble and I have never seen any permanent weakness of the ciliary muscle as a result of it, though it is often used for many months at a time. But I have notes of several cases in which, owing to the parents going abroad and continuing the treatment too long in the absence of advice, after the sight of the originally fixing eye has become amblyopic from disuse.

If this deviating eye has lost the power of central fixation it will be necessary to occlude the fixing eye absolutely and continuously, preferably by a gauze pad secured by long strips of strapping plaster. As a general rule, to which, however, there are exceptions, if central fixation is not regained within four weeks, further attempts to restore the sight will be useless. Amblyopia exanopsia is not easily acquired, or cured, after about 7 years of age. This method of preserving or restoring the sight of the deviating eye is of more importance than all the rest of the treatment of squint put together.

We are all agreed as to the importance of correcting refractive error in cases of squint, but there is no general agreement as to the age at which glasses should first be ordered. That a very young infant uses its accomodation has been demonstrated at Moorfield in scores of babies who, having the fixing eye atropinized, use the unatropinized squinting eye in looking at very near objects. When there is convergent squint,and a very high degree of refractive error, I am accustomed to order spectacles for very young infants, some less than three months old. With strong, well fitting frames and moderately thick lenses this practice is quite devoid of danger, and the results have made me an earnest advocate of early treatment.

It was formerly a common practice to order atropine for both eyes for months at a time for hypermetropic squinters who were supposed to be too young to wear glasses. The squinting eye usually has the greater refractive error, that is why it was originally chosen as the squinting eye. To keep the accommodation of this eye paralyzed by atropine is to ensure that it shall never under any circumstances be used. Some of the most helpless cases of blindness of a squinting eye which I have seen are in children who have been thus treated.

As regards fusion training I have nothing to add to what I said at the Swanson meeting of the Association nine years ago. I will only repeat that it must be carried out by the surgeon himself, and that the patient should

not be older than about six years. One would not, as a rule, operate for squint upon an infant, nor upon any patient, until all other means of rectifying the deformity had been exhausted. But I would endorse a recommendation made by Mr. Priestley Smith many years ago. If an eye of an infant is so strongly convergent as to render the use of this eye mechanically difficult, tenotomy should be performed at once, for the probability of subsequent divergence, which can be rectified, is a smaller evil than the certainty of an incurable amblyopia. I do not now perform tenotomy of any ocular muscle save in quite exceptional cases. I formerly considered tenotomy combined with advancemnt of the opponent to be safe, but have had reason to modify this view. I endeavor to see my old squint cases at intervals of two or three years, even after all need for treatment has ceased; and it is usually not until several years have elapsed that I have had cause to regret the performance of a tenotomy. Advancement of one external rectus in moderate degrees of convergence, or of both external recti in high degrees, enables one accurately and permanently to restore the eyes to their normal relative directions.

The advancement operation, which I have used exclusively for the last thirteen years, has undergone some slight improvements in technique.

The eye is anaesthetized with cocaine and andrenalin, or if necessary a general anaesthetic is used. The surgeon, standing behind the patients' head, makes a curved vertical incision through the conjunctiva and capsule of Tenon, about ½ in. in length, the convexity of the incision being close to the corneal margin. The conjunctiva and capsule are then pushed back so as to expose the incretion of the tendon. One point of the advancement forceps is now passed under the tendon, after the manner of a tenotomy hook, the other point being superficial to the conjunctiva. The forceps is now closed, so that tendon, capsule of Tenon, and conjunctiva are all firmly clamped together with their relations undisturbed, except for the retraction of the membranes. The tendon is now divided with scissors near to its insertion, leaving about 1 mm. on the sclerotic. This is to give the fixation forceps a good hold during insertion of the needle into the sclerotic. The advancement forceps holding the tendon, capsule, and conjunctiva can now easily be lifted up, so as to get a good view of the under side of the muscle.

One of the needles is then passed inward through the conjunctiva, capsule, and muscle. It is then again passed through muscle, capsule, and conjunctiva, and brought out. The bight of the thread thus encloses about the lower fourth of the width of the muscle, together with its tendinous expansions and capsule and conjunctiva. The other needle is similarly entered, passed through conjunctiva, capsule, and muscle and brought out at the under side of the muscle. It is then entered again at the under side of the muscle and brought out through the conjunctiva, the bight of this suture thus enclosing the upper fourth of the width of the muscle, etc. The object of inserting both sutures, before proceeding further with either is that they may be symmetrically placed. The ends of the thread are then crossed over. The end bearing the needle is then entered and pased through conjunctiva, capsule, and muscle, and carried beneath the lower blades of the advancement forceps nearly to the corneal margin. The needle is then passed through the tough circum-corneal fibrous tissues and brought out just within the corneal margin. The two ends of the thread are then temporarily tied loosely with a single hitch. The first suture is then similarly completed. The anterior part of the muscle and capsule and conjunctiva are then removed by cutting them

through with scissors behind where they are grasped by the the advancement forceps. The gap is then closed by tightening and securely tying each suture, so that the eyeball is rotated in its correct position, and the anterior end of the muscle is brought nearly up to the corneal margin. The fine adjustment is done by tightening or loosening the hitches, the result being checked by the mirror test or by the reflection of a candle flame on the cornea. The surgeon's knots are then completed.

In operating under cocaine, the immediate effect is the permanent result. No over-correction, therefore, is necessary. In operating under general anaesthesia one has to bear in mind the angle of the deviation, and produce approximately that degree of rotation.

After the operation the patient is kept in bed with both eyes bandaged for a week. On the eighth day the sutures are removed and both eyes are allowed to remain uncovered.

The special points of this operation are—the sutures have a firm hold without strangling the muscle, the relations of the mucle to adjacent structures are disturbed as little as possible, so that its vitality is not lowered and it does not form adhesions to the stump of the tendon (there is a true advancement, not merely a shortening) the operation admits of very accurate adjustment.

When an eye is divergent as a result of tenotomy many years before, there is usually a constant feeling of discomfort and sometimes pain in the eye. But the tenotomized muscle, as a rule, does not atropy to any great extent, so that the deformity and discomfort may be remedied. I have operated successfully upon many patients twenty years or more after the original tenotomy.

DIVERGENT SQUINT.

There are two varieties of comitant divergent squint, differing entirely in their pathology—in fact, they have nothing in common except the deformity.

Myopic divergent squint commonly makes its appearance at about 10 or 12 years of age. There is usually a considerable degree of myopia and a good fusion sense. During early childhood the myopia has been increasing until it reaches perhaps seven or eight dioptres. His far point being only 5 in. or 6 in. from his eyes, this myope finds convergence in near vision increasingly difficult. So he gives up the attempt. He holds his head a little on one side and gets a clear image of his book with one eye while the other is directed past the book into the distance. There is no diplopia, bcause the image in this eye is so extremely indistinct compared with that in the reading eye. At first there is no actual disturbance, only a failure to converge, and there is always binocular vision in distance. But later, as a result of the function of convergence never being used, it becomes weakened, and the other eye may be widely divergent even in distant vision.

Owing to the increased attention given to the eyes of school children, myopic divergent squint, which was common fifteen years ago, is now seldom seen.

Neuropathic divergent squint is a term which, for want of a better, I have applied to the other class of divergent squint. I do not quite understand the pathology, but these are the clinical facts: The divergence usually dates from infancy; it may be occasional or constant, unilateral or alternating. There may be a feeble degree of fusion, usually it is quite absent. The refraction is, as a rule, normal. In the constant unilateral cases there is amblyopia. In other cases the vision is usually perfect. The power of dynamic convergence is always defiicent, but it varies to an extraordinary degree from day to day. The association between accommodation and convergence is slight or absent. The arcs of rotation of each eye separately may be normal. The subjects of neuropathic divergence

are usually very bright and intelligent, but they are nearly always very nervus and highly strung. A family history of epilepsy or insanity is very common. The affection is about three times more common in females than in males.

HETEROPHORIA.

Heterophoria is a defect in the relative motor balance of the two eyes, this defect being kept in check by the fusion faculty. It is in this respect the converse of squint. It is a binocular affection. In a case of esophoria or exophoria it can seldom be demonstrated that the nasal or the temporal rotation of either eye is deficient or excessive. One can only say that there is a tendency to abnormal convergence or divergence. In hyperphoria there is not necessarily any excess or deficiency of upward or downward movement of either eye. Usually, all that can be discovered is that one visual axis tends to lie in a higher or lower plane than the other. I have examined a considerable number of cases of heterophoria with Steven's tropometer, and have seldom discovered any marked deficiency or excess in the separate arcs of rotation of the eyes.

I am accustomed to use the Maddox rod as part of the investigation of every refraction case, and if any important heterophoria is found other tests are applied also. Heterophoria is not at all uncommon, but, in this country, at any rate, it only occasionally gives rise to trouble, and a case which causes no trouble needs no treatment. But now and then one sees a patient who suffers severely from the symptoms generally knwn as "eye-strain," and who has derived no benefit from optical correction of any refractive error which he may have. It will probably be found that the cause is heterophoria, and that treatment of this gives immediate relief.

As regards treatment: If a sufferer from heterophoria also has any considerable refractive error, I do not treat the heterophoria until glasses correcting his refractive error have been worn for several weeks. In esophoria one may tentatively order the constant wearing of prisms, bases out; and in exophoria,prisms, bases in. Some patients derive great benefit from them, but most are unable to wear them owing to their altering the apparent size and distance of objects. As a rule, if esophoria or exophoria requires any treatment at all, advance treatment of a rectus muscle should be performed.

Hyperphoria is much more liable to give trouble, but it is also easier to deal with; prisms base down before the hyperphoric eye and base up before the other, being usually all that is required. In high degrees of hyperphoria, or in a case in which the patient especially desires not to wear glasses, advancement of the inferior rectus muscle of the hyperphoric eye gives excellent results. Advancement of an inferior rectus is not more difficult than advancement of an external rectus.

M. D.s five miles from town and their auto out of commission.

MISCELLANEOUS

THERAPEUTIC EXACTNESS.

By George L. Servoss, M. D., Gardnerville, Nevada.

"Surgery is an art; medicine is an educated empiricism." These were the words of a member of the faculty during the middle Nineties, and to a marked degree were they true, even at that late date. Down to that time we find that the internist was employing drugs in the treatment of diseases simply because some one had previously found that they gave certain reactions under certain condition. Just why these results were not invariably the same. In the majority of instances, even at this late date, all cases of the same disease were treated correspondingly the same. But little attention was given the individual and his peculiarities. And all of this in spite of the discovery and determination of the theory that the major portion of diseases were due to germ invasion. The surgeon had found that infection played a considerable part in the prompt recovery of his cases and he had begun applying agents to either do away with possible infection, or overcome the effects of the infective agents. Although the internist recognized, to a greater or less degree, the fact that most of the conditions coming under his observation were infections, he did not make any serious and more particularly those of plant tor of the diseases, but rather followed in the footsteps of his forefathers and blindly administered such agents as had been their practice, and without regard to any specific action or effect thereof. Of course, it goes without saying, that our forefathers employed some agents in a scientific manner, but not because of the fact that they recognized such to be the case. They simply found that certain drugs did certain things and in consequence employed them, without knowing why or how they acted. That such applications were scientific was accidental and not intentional.

Until the middle of the last century but little was known regarding the reason of the action and effect of the various drugs employed in medicine, and more particularly those of plant origin. Based upon the observations previously made, drugs were accepted and employed for such reason and no other. At times they gave results, while at others they seemed to be quite inert, regardless of the fact that the conditions under observation were relatively identical. Just why this was, was not understood, either fully or in part. Early in the past century it was determined that certain plants carried substances which seemed to give such drugs their activity, but even with such discovery but little advancement was made in internal medication and practically half a century passed before this matter was given any considerable attention. Then the active constituents of a few plants were isolated and separated from the other plant parts, but they were not employed very largely until some time thereafter, owing to the fact that they were considered too potent. During the Civil War it was noticed that malaria submitted to quinine and that active constituent of cinchona became of popular exhibition in this disease, but it was not until practically half a century thereafter that it was demonstrated just why the drug was effective. These earlier users of this drug in this disease were practicing scientific medicine, but they did not know or recognize that fact. Their practice was entirely empiric, in so far as their knowledge was concerned.

Opium, in its entirety, has been employed time out of mind. Despite the fact that it was frequently indicated, it as frequently happened that it failed to meet the indications. Until it was

determined that this plant drug contained a myriad of active constituents, some active in one and others in a reverse manner, it was not understood just why it was not invariably active in relatively the same manner. With the splitting up of the drug and the isolation of the various active constituents in their simplest forms the actions of opium became better understood and it was seen why the entire drug did not invariably give like results in like cases. In no two lots of the drug were the active constituents found to be of constant percentage and this variation interfered with like effects in all instances.

Not only was it found that cinchona and opium carried numerous active constituents, but that the majority of the plant drugs were of similar constitution and of complex nature. This wrought a reform, both in drug manufacture and drug application. The manufacturer recognized that, if his goods were to be active, attention must be given to the active constituents of the plant and in consequence he made assays of both his crude drugs and finished pharmaceutical products and determined the fact that they were active. Not only did he make such assays to determine activity, btu he went a step farther and established a standard of strength of such drugs as carried estimable active constituents. In the majority of cases, however, he made one serious error, in that he based this standard either upon the presence of the more prominent active constituent, as morphine in opium products, or upon the percentage of the combined active constituents of the plant. In the opium products no consideration was given to the possible difference of occurrence of the active constituents, other than morphine, despite the fact that some of the others might interfere with, or inhibit, the morphine effect. In the other instance, in which the combined active constituents were considered, it was not recognized that such principles might be relatively opposed, one to the other, as was subsequently demonstrated. The establishment of this standard was, however, a step in the direction toward therapeutic exactness, in that it gave the doctor some sort of an idea regarding the constitution of his drug agents, as well as a knowledge of their strength. The determination of the presence of the active constituents likewise placed internal medication upon a more scientific basis, in that it gave the physician a more absolute knowledge of the cause of drug action and effect.

While the standardization of whole plant products was a step in the right direction, it was not one of sufficient length, in that it still left us with complex bodies with which to deal. This interfered very largely with therapeutic exactness, in that we were not invariably sure that we would obtain relative results, case for case, through the use of such agents.

During the latter part of the last century a step farther was made, whereby the active constituents of the majority of the plant drugs were isolated and reduced to their simplest forms. Through such step was the internist given agents, not only of absolute purity, but of like simplicity. These could be exhibited without fear of inhibition through the presence of some other active agent, and to meet certain indications, almost, if not quite, absolutely.

Prior to the isolation of the active constituents of the plant drugs it was noticed that it was the practice of many doctors to employ complex combinations of various drugs. This was due to practical ignorance of the absolute action of the drugs employed, they being used simply because of the fact that experience had shown that they were effective The complex compounds were used with the idea that, if one of the constituents was not active, another

would be, and that one or all would bring relief. The isolation of the active principles, however, gave the doctor, one or more drugs of absolute known effect, and in this way has therapeutic exactness been established. Not only has this been established, but likewise simplicity of drug application, as the long formulas of our forefathers are no longer employed. In many instances a single agent will suffice to correct, and in all cases are drug agents given to correct single conditions. Thus is internal medicine reduced to practically an absolute art.

"THE PRINCIPLES OF SERUM THERAPY."

By Claude P. Fordyce, A. B., M. D., Sc., M. D., Stanley, Neb.

The toxin molecule contains two arms; one called the Haptophore corresponding to food-stuffs and which alone has the power to be united with the receptors of the cell; the other called the Toxophore contains toxin and it can reach the cell only by means of the haptophore. It is assumed that when a toxin enters the system the haptophore group immediately combines with the receptors of the cells thus replacing the food stuffs of the cell and one of the first results is an interrupted nutrition. The toxophore is slower to reach the cell whence the period of latentcy or incubation that usually intervenes before the toxic effects of an infection become manifest. Antitoxins deprive the toxin of its toxophore group and convert it into a harmless toxoid substance which is used to produce immunity.

The practical applications of the researches and theories of immunity are twofold—diagnostic and therapeutic. The chief examples of their diagnostic application are the agglutinative reaction as used in the Widal test in typhoid fever and to a less extent in other diseases, and the employment of the Opsonic Index.

The therapeutic applications are more important though there is still much to be done before their practical use is fully understood. The substances employed in artificial immunization and in the curative treatment of disease falls under two heads, serums and vaccines. They are to be considered different not so much in their physical make-up or methods of preparation but as to the uses to which they are put.

The various anti-sera are employed chiefly for their direct action on the bacteria or their toxins. Vaccines, more especially in reference to the emulsions of dead bacteria already referred to, are used to stimulate the formation of protective bodies. Serum contains antibodies while vaccine only excites their production in the circulation. Of the sera may be mentioned anti-diphtheritic,anti-tetanic, anti-venomous, anti-diplococcus and of the vaccines those of small-pox, typhoid, blackleg and pneumonia.

In local infections without general symptoms and with the localized infection or suppuration walled off from the rest of the body by the protective powers of the blood and tissues but not tending to heal or to be absorbed, injections to increase the opsonic power of the blood have proved of the greatest value. The protective exudate around these localized infections as stated by Tileson,—"is poor in opsonins owing to the absorption of these substances by the bacteria: phagocystosis is at a standstill and the bacteria are free to multiply." Add to this in the case of abscesses, the tryptic substances set free by the disintegrating leucocytes with their deleterious action on the tissues and we have a combination of conditions unfavorable to cure. We hasten cure by evacuating the pus and draining the region and by encouraging the constructive powers of the body by giv-

ing stimulating drugs and pushing nutrition.

A still greater aid to hasten cure seems to be a vaccination with a culture grown from the particular germ of infection, in other words an Autogenous Vaccination, while vaccination with stock cultures of the type of germ of the infection are of some value, the various strains of a pus producing germ vary so much, especially in the kind of opsinins that are needed to eradicate them, that autogenous vaccination has been found to be far better. They cause increased hypermia around the localized disease and the increased circulation thus caused is another aid in eradicating the infection.

The reason that the Bier hyperemic treatment of localized inflammation and infection becomes of value is because the opsonins are increased and the phagocytosis more active and the eradiaction of the infection goes on more rapidly if the circulation in the diseased region is stimulated.

Septic infections should certainly be treated with stock vaccines and then as soon as an autogenous vaccine can be developed it should be used. The pneumococcic vaccine seems to be of most valne when the pneumococcus has attact other parts of the body than the lungs as in joint inflammation or empyema.

For an example of the preparation of an autogenous vaccine, its standardization,dosage and therapeutic action let us take some of the discharge of a pneumococcus joint micro-organism of the partciular patient. Our aim is to prepare a suspension of devitalized bacteria proxagated directly from the disease. The method is is follows: The material for cultures must be such as contain the infected organisms and collected with strict aseptic precautions to prevent contamination with adventitious bacteria. Such material may be blood, pus or secretion. It should be put directly on solid culture media (or what is of great advantage to the general practitioner, sealed in tubes and sent to the bacteriologist's laboratory). After multiple repetitions of growth of culture media the surface growth is removed and agitated in sterile salt solution to a uniform suspension or emulsion. The bacteria are then counted in comparison with the red corpuscles, in an equal amount of normal blood and adjusted to the desired number by dilution.

It is devitalized by heating to 60 C. for 1 hour and then tested for absolute setrility by the usual bacteriologic methods. In potency .01 antitoxin should neutralize .1 toxin. The dose is in the terms of units—a unit being the amount of antitoxin necessary to protect a 300 gram guinea pig against 100 times the fatal dose of toxin.

Now we have a vaccine which, when injected in a dose of 10 to 15 millions, as advised by Wright in the case of the penumococcus, excites the production of antibodies for the particular disease.

It seems to be the concensus of opinion among many bacteriologists that autogenous vaccines and serums produce better results than the so-called stock remedies. "The inheritance of all the ages from medical experience and research have brought to us but few reliable specifics or even immuizers for infectcious diseases, which furnish nearly all of the mortality and much of the morbidity the world over. Enough has been developed during this brief period of the serum era to suggest the possibility of coming mastery of these morbid conditions to supplant the present limitations of the healing art."

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"She says that her ancestors came over in the Mayflower."

"And she looks old enough herself to have caught the next ship."

ERYSIPELAS IN A DIABETIC IMBECILE FOLLOWED BY MOIST GANGRENE.

By W. H. Tucker, M. D., Eldorado, O.

I was called March 17 to the home of a daughter of Mrs. M., age seventy-six, a large strong woman. Mother of four children, family history negative. She has been an imbecile four years, and found Mrs. M. suffering from la grippe, and very violent, having to be restrained by force. Temperature 102, pulse 120, respiration 30. She also has a mitral regurgitant lesion of several years standing. Treatment calomel salicylates, caffeine, and triple bromides to control the violent condition and cause her to rest.

On making a second call March 18 the daughter said there was a small red spot the sipe of a half dollar on the inner side of her mother's right leg half way getween the knee and ankle, that was giving her some uneasiness as she was continually rubbing it. On examination we found it had enlarged during the last few hours until it covered the middle third of the leg. I applied icthyol and glycerine equal parts sufficient to cover the area and covered the same with oiled paper and bandage and left instructions to apply same at night and dress as before. The third, patient was much better, temperature and pulse normal. The leg looked better, the inflammation had not spread further and was improving.

I was called by phone the fourth day by the daughter who said that her mother was up, had eaten a good breakfast, had no fever, she had washed the icthyol from the leg and the inflammation had nearly disappeared and that I need not call up as they would call me if anything came up.

I was called again March 27 and found pulse 100, temperature subnormal, the leg and foot much swolen edematous and very painful on pressure. On the anterior part of the middle third,the skin was of a dark green color for a distance of five inches in length and three wide and ready to slough. I made several incisions through the skin and there was no hemorrhage, irrigated the slough with tincture iodine a teaspoonful to a quart of water that had been boiled, applied a dry paste to the leg and foot, covered this with oiled paper and bandage, wrapped the leg and foot in cotton and bandage and applied dry heat.

On inquiry I learned that patient had been drinking large quantities of water day and night and passing much urine for the past three months.

I secured three ounces of urine and told the family that we had a case of Diabetic Gangrene and gave an unfavorable prognosis, left a heart stimulant, codeine for the pain and H. & A. menthylene-tetramine.

On returning to my office with the urine I found a Sp. G. of 1030 sugar, Fehling's test. This was the only specimen that I was able to secure. On March 28 and 29. I cut away the slough, continued irrigations and clay paste cotton and dry heat. On March 30, edema and swelling had disappeared.

I then had to resort to morphine and atropine to keep patient quiet and in bed. March 31, April 1 and 2, she lay in a comatose condition and would not take nourishment or medicine, the odor from the leg and breath became so offensive no one would stay in the room. She died the evening of the seventh day after I was called the second time.

I would call your attention to Hexamethylene-tetramine as a remedy in patients' whose urine has a high Sp. G. and contains sugar it has reduced the amount of sugar for me and in two cases of gangrene in diabetics the lesions have been healed by granulation after several weeks treatment with Hexa-methylene-tetramine in one case I did a skin graft, which was successful and the patients are living to-

day and in fair health, after one and two years. They were male patients of middle age. Try it and report results, please.

SHOULD A COLLGE DEGREE BE AN ENTRANCE REQUIREMENT IN ALL MEDICAL COLLEGES?

By E. P. S. Miller, B. A., B. Ph., M. D., Chicago, Ill.

One might suppose from the above title of the article and from my having obtained three degrees besides my high school diploma that there could be, as a matter of course, but one answer to this question from my pen. But, if I had learned but one supreme lesson from my schooling, it is this, that all important questions are debatable. There are always two sides to a story and one should listen to both sides avoiding prejudice as much as possible.

Under present circumstances it appears that there are too many M. D.s. (I am inclined to think that there are too many people who cannot afford to pay for medical services.) As a general proposition the requirement of a college degree, earned by a four years residential course of study, would materially reduce the attendance at our medical colleges and effectively reduce the number of medical graduates. This would be a fair method of defense for an over-crowded profession to use if stated boldly, open and above board. But too often, this is not done and the other reason is given that we wish to raise the standard of the medical graduate. This reason is also a good one but it is hypocrisy to advance only the latter when we mean the other one too.

I know a labor union which requires an initiation fee of $50.00 and is now trying to raise its fee to $100.00, clearly to limit the number of workmen in that line. If we have too many in our line let us say so. A student of pedagogy or a student of theology is deserving of much sympathy because he is going into a poorly paid line of work. The medical student has perhaps too much sympathy wasted on him: he is generally expectant (and it is difficult to undeceive him) of a lucrative practice and the student of today will be our competitor tomorrow.

We certainly prefer men of education for our medical students. Does a college degree imply that the student is educated? It implies it but it does not guarantee it. Fathers and mothers and educators have longed for, and always will long for, a system of schooling wherein the child can be placed, run through and come out a perfect product in the same way that a log is put into a mill and come out a beautifully polished sectional book-case. There are great differences between pin, oak and mahogany and so thre are between students. It takes all kinds of people to make a world and it is well that schools and colleges vary in their curricula. If they did not, what a monotonous lot their grauates would be. So would our medical graduates be a dull lot if an iron-clad curriculum could be enforced in all our medical colleges.

When I was an undergraduate literary student at dear old Hillsdale College, how shocked I was, to hear the Rev. Frank Gunsaulus say to us in a lecture on Oliver Cromwell, "The best thing a college ever did for a man was to teach him to think." It seemed to put a low price on the facts I was trying to store up on the tablets of my memory. In the light of the twenty years following that lecture I find that he is right. "As a man thinketh, so is he," wrote one wise man: "Cogito ergo sum," said another wise man.

You may lead a horse to water but you can't make him drink.

"You may send a fool to college but you can't make him think," wrote

another, not so elegantly expressing the same idea.

Education must consist it seems to me of a certain amount of stored knowledge, be it social, literary or scientific. An oak tree can be educated out of an acorn and only out of an acorn. The reason that schooling so often fails to educate is that the possibilities were not in the pupil at the begining. Sometimes a fond parent is trying to educe a professional man out of material that would make a better success in commercial or agricultural lines.

When I was a boy I became interested in telegraphy and tried to get the station agent to help me along. He discouraged the idea and told me the truth as to the prospects in that line. He was right. We would do better to warn the callow youth with the sickly smile who "would like to be a doctor" of the real difficulties that lay in the road and of the fact that the medical colleges could all close down for six years before the country at large would demand the production of more M. D.s.

Practically, I think the equivalent of two years college work is sufficient to take up the study of medicine. If the course is to be lengthened it should be at the medical end. That is a five year course with the last year as an interne would be about ideal in the present state of things.

It is well for the profession that we have a goodly percentage of college degree men to write and lecture in acceptable language but we need the nameless M. D., for the remote district who can reduce a fracture, cure malaria, lance an abscess even if he can't spell correctly the orders which he sends to his supply house in the city.

I do not know what the future may bring but at present a number of our best surgeons have not earned college degrees though they have had them thrust upon themselves pro causa honoris.

I believe this question of preliminary education is one that should receive earnest discussion by the readers of this magazine.

PHYSIOLOGY OF MARRIAGE.

By D. L. Fields, M. D., Jeffersonville, Ind.

It is claimed by those who have given attention to it, that character in after life is dependent upon the parental state the moment of conception. That the offspring is the combination, or perhaps more properly speaking,—culmination of parental qualities, physically, morally, intellectually, and tempermentally. They may partake of all parental peculiarities of body, mind and heart; not only of parents, but of remote ancestors. Therefore, it will be seen how important the union of the sexes becomes; i. e. that they should be so mated as to bring forth healthy offspring.

David said: "Behold, I was shapen in iniquity, and in sin did my mother conceive me." It cannot be supposed that David intended to express a physiologic truth. He speaks figuratively, as was the habit of the Hebrews. They used idiomatic expressions. While David did not mean to impute iniquity to his mother; but rather to convey the idea of having been the inheritor of a sinful tendency from his parents.

One might come to the conclusion, without being very deep in the knowledge of physiology, that under certain circumstances, or conditions, men produce deteriorated children;such as the children of inebriates. A man who is under the influence of an intoxicant at certain times, should not complain, if his children are rickety, imbecile, or sickly. Not only this; but anger, hatred, fear, grief, or anxiety of mind, unfits man for procreation. Temperance, health, purity, and a kindly humor, are

prerequisites to sound progeny. Suppose you bring forth a driveling idiot, as the result of your unfitness? To have the care of such, is hard to bear; but much harder to bear, if you had a hand in making such a child. Thousands are doing this very horrible crime every day, and God will hold them accountable. Men often know they are not fit to be the progenitors of a family, but they stolidly persist in open defiance of an inevitable and inexorable physiologic law. Some dreadful mistakes are made by young women in selecting husbands. I wish to give a few illustrations which have come under my observation; and which serve as a warning to young girls who contemplate entering the marriage estate. A very lovely young lady was warned against contracting marriage with a young man, who was known to get on an occasional spree; but as he was loud in his protestations of innocence; and not taking the precaution to investigate the truth of the warning, she married the man. He soon spreed oftener and oftener; was the father of one daughter who developed hip-joint disease; and boy who soon developed suppurative ottis media, becoming permanently deaf; and the husband went from bad to worse, till it became necessary for the wife's parents to take her to their home.

Another was a case of a very sweet young lady, who married a man in spite of warnings; and today they are divorced, with two beautiful children for the mother to raise. Her husband gambled his earnings away.

Another of a young man who was mean enough to marry a lovely girl, knowing he was not fit to do so, because of a disease contracted in sinful lust. He infected his innocent wife, whose life was only saved by the surgeon's knife.

Will young women never look into a man's character and habits before they marry? They often delude themselves with the belief that a man will reform his bad habits after marriage; but they don't.

If there is a mundane hell the wives of drunkards and gamblers certainly suffer its tortures. If I were the judge of a court, and a woman could prove that her husband drank whisky, chewed tobacco and ate onions, I would grant her a divorce. Tobacco is not so bad; but onions and whisky are the limit. I know a man who did about all of these abominations; and yet his wife endured it all, and came down to penury. It was an awful outrage; but she was conscientiously opposed to divorce. Many husbands start out under most favorable auspices; but soon make shipwreck, and bring their families down with them. It is something good women can't foresee; yet if marriage is not contracted too young; and a woman has sense enough to choose only a God-fearing, Christian for a husband, she will make no mistake, whether she marry young or older. A man should be physically, morally and religiously suitable. Above all things on earth, a christian girl should shun a sceptic or an agnostic, as she would a leper. It may be the eternal damnation of both.

Excuse the above digression to the social and moral aspects of matrimony. Still, I will mention two more cases, as a warning to Christian girls. A man here was the husband of a Godly wife; but he took especial delight in scoffing, and ridiculing religion to the distress of a long-suffering wife; but when he became hoary-headed, the withering hand of paralysis was laid upon him, and he repented and joined the church. I have no more faith in dying-hour repentance, than I have in any other form of hypocrisy. It's the repentance of fear, and not the promptings of love and duty. The thief had never heard of gospel; but those who have heard of it, and deliberately reject and blaspheme, are hypocrites when repenting in the presence of death. If a girl

would be happy, let her marry in her own church, if possible. Above all things, marry a man who respects religion, even if he has never espoused it. There is hope for him; but none of an infidel, or an atheist.

The fewest number of young females go wrong, but a large number of young men pursue devious ways. My concern would be more for the future welfare of young females, than it would be for males. The first need protection and warnings; but the latter don't need the former; and would not heed the latter. The event of marriage marks an important era in the life of a young female. It introduces her to some new and most serious relations. It devolves on her a set of cares, duties, and responsibilities, she has but a faint conception of. It will lay the foundation for increased happiness and unavailing regrets. Too many enter matrimonial life imperfectly prepared, and her deficiencies bring mortification. She is not qualified to make a good housewife. She will be a disappointment to those imemdiately connected.

Think of the preparedness of the good old-time woman who could spin, weave, knit, sew, cook and keep a house which was a veritable hive in industry. The writer's mother, and for a long time, his wife, knit his socks, made his shirts and undergarments; as well as cuffs. To be sure, our circumstances became such that it was not necessary for her to do these things. She was a lovely, well trained country girl; and was not only the recipient of a scholastic education; but a domestic one, as well. The great trouble today is that young women choose to go from the homes, to toil as clerks, bookkeepers, and stenographers, instead of learning domestic duties. They are deserving for their industry; but it doesn't qualify them in domestic science.

Then the highly favored class of females who are society butterflies, and especially disqualified for wives and mothers. If one of them should marry, and be so unfortunate (?) as to become a mother, she would consign her child to the nursery in charge of a maid, and go from function to function from "500" to "500"; from "bridge to "bridge"—a continuous round of society pleasures. The truth of the matter is, that the rising generation has gone pleasure mad.

In marriage, a wife will rise or sink with her husband, unless she is rooted and grounded in a strong individual character. It is certainly desirable that a young woman should marry soue one who is her equal; but if a man is ambitious, moral and industrious, she will make no mistake if she link her fortunes with him; even if he doesn't occupy the same social position that she does. If she marry wealth, it ought to be used to do good, and not spoil her life with vanity. Above all things, avoid dudes, fops, and vain, effeminate men. It is a misnomer to call them men. With a passion for finery and a particularity of manner, he is a vapid, inane nobody. Such creatures are generally spendthrifts of somebody elses money; as they are not likely to earn any for themselves. While a spendthrift is to be rejected, a miserly man is just as objectionable. A woman who marries a penurious, tight-wad will be compelled to deny herself even the comfosts of life, and will be subjected to embarrasments, and often mortification. Congeniality is indispensible in married life. If there is much disparity in ages, incongeniality is sure to come as the years pass. No woman would want to take care of a superanuated husband. It is not necessary that there should be any difference in ages, as women should keep young as long as man does.

In my next paper, I am going to continue the consideration of the social and moral aspects of matrimony. I will, however, return to the physiology of marriage later. There can be no

more important phase, than the social one. I shall try to describe the character of wives certain persons should choose. For instance, doctors wives, ministers wives, merchants wives, politicians wives, and so on.

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THE "RED PLAGUE."

By George L. Servoss, M. D., Gardnerville, Nevada.

In the May Recorder we find our Editor giving considerable space to the consideration of pneumonia, and the mortality therefrom, particularly in the city of Chicago.

In days past, during the boom times in Nevada, when people were hurrying to and from one mining camp to another, and were exposed through lack of shelter, or were too well sheltered, we saw many epidemics of this disease. The mortality was high, and as a rule, in most of the epidemics, the afflicted died within a comparative few hours after the recognition of the disease. In some instances, in the earlier days there was but little time for full diagnosis, as the patient was frequently on the verge of death when first coming under the observation of the doctor.

Many of the cases noted in the mining camps were due to both exposure and overstimulation, as it was the habit of everyone, almost, to partake largely of alcoholic drinks. Many a man, having drunk himself into partial insensibility,left the saloon and started for home, but fell by the wayside, and there slumbered upon the bare ground, with no covering than his ordinary clothing. The result was a quick pneumonia, favored by both alcohol and exposure. Such patients succumbed to the ravages of the disease in short order, as a rule. The saloons of the camps were the chief business places of the communities, and were invariably well filled with men of all sorts. These men wore their clothing of the hills within doors, and as all had the "habit" of heavy woolen underclothing, topped off with heavy outer clothing, a few moment's stay within one of the saloons meant the bringing forth of a considerable amount of perspiration, and if such men became drunk and slept out of doors, they were readily chilled. The air of the saloon rooms, it may be imagined, was far from pure and it is undoubtedly a fact that the pneumonia germs were generously distributed about such places, to attack the weaker members of society, or those made susceptible through the inordinate use of alcohol.

In Nevada we have but very few recent attacks of tuberculosis, but like all the mountain states, we have numerous visitors from the lower altitudes, who come here for the purpose of being relieved of the ravages of the "White Plague." While statistics are not at hand, it is probable that the mortality from tuberculosis in this particular state is lower than that from pneumonia.

The man or woman who lives an out-of-doors life in Nevada, as a rule contracts neither tuberculosis nor pneumonia. It is he, or she, who resides within the later, and warmly built, houses, that have these diseases. None of the ordinary diseases of the air passages are prevalent with those who live close to nature and a "cold" is practically an unknown quantity, until one lives beneath a roof, or fills up with "fire water" and exposes himself unduly to the elements.

The prospector and teamster sleep out-of-doors night after night, and seldom are we called upon to treat them for the simplest sort of disorder of the air passages. These men live clean lives and are toughened, to a greater or less extent, to the effects of the elements. But let these same men congregate in the towns or mining camps and the

"Red Plague" makes an appearance, almost immediately.

Owing to the sudden attack and the rapidity with which the disease progresses, it behooves the doctor to "get busy" and very busy as early as possible. Prior to the recognition of the condition, which was marked with irregular symptoms in the earlier cases, many cases were lost, which could undoubtedly been saved, judged by subsequent experience.

Many doctors continued the use of alcohol, in one form or other, throughout the course of the disease and it was a noticeable fact that the vast majority of cases, so treated, died. Basing our ideas upon such examples, we discontinued the use of this stimulant, entirely, and the result has been that we have seen more recoveries. If alcohol were merely a stimulant, it might be indicated in pneumonia, especially in the higher altitudes, but this drug, if you please, secondarily, acts as a depressant, and the ground gained through stimulation is lost through this secondary effect. I have not employed a single dose of alcohol in a single case of pneumonia in Nevada and my percentage of recoveries has been 100. This has not been wholly due to lack of alcohol, but rather to systematic treatment. The Editor mentions the use of aconite and vertatrum, as the best drugs to employ in pneumonia, the first in asthenic and the second in sthenic cases. I agree with him heartily, but for the fact that I have found the alkaloids, aconitine and veratrine preferable to the whole drug products. They have given me better and surer results, and I have known the absolute strength of the drug employed. The tinctures of these drugs are all right, as far as they go, but it is a recognized fact that we freuently find these galenic products far from standard and that the matter of dosage is largely one of guess work. In asthenic cases I have employed aconitine, the amorphorris in dosage of 1-134 gr. or the crystal to the amount of 1-800 gr. at very frequent intervals, every 15 minutes when required, until the pulse was found to be dropping. When the desired pulse rate was obtained, the interval between doses was lengthened out. In sthenic cases, veratrine has been employed in like manner, 1-134 gr. at sufficiently frequent intervals to obtain desired results. These active principles, when employed absolutely according to indications, have, I have ever reason to believe, shortened the course of the disease. Not only has this been the case, but I have every reason to believe that the severity of the attack has been modified in every instance. In order to obtain results, neither of these agents are to be used in a half hearted, or cowardly manner. While potent, the etiological factor of the disease is equally so, if not more potent, and it must be met squarely and with sufficient dosage to overcome its effect. If one is to dally along he may as well leave both aconitine and veratrine out of the line of treatment altogether. While many say that the expectorants do but little good in penumonia, I have found that my patients were made easier if given suffiicent emetine to increase the expctoration. I have begun this at my first visit and continued it throughout the course of the disease, and have noted that it has seemingly assisted in the removal of the excretions from the air passages and favored easier breathing. It surely assists in relaxation of the patient in the sthenic cases. Codeine, combined with emetine seems to give about the same effect as does the Dover Powder.

Other indications are met and combatted with as they have arisen, no set line of treatment being followed in any two cases. It may seem a strange thing to say, but I have not "fussed" with the chest of the patient in a single instance. There have been no applications of mud; no ice bags; no flannel or cotton jackets. Nothing, in fact, ex-

cepting a good thick, hot "flap-jack" to relieve the pleuritic pains of the first day or two. All I have asked has been that the patient be clothed sufficiently warm to be comfortably warm, with all the windows open. The skin, as we all know, acts well in the carrying off of effete material, and if we cover a goodly portion of it with jackets of one sort or another, or with mud plasters, excretion, in my mind, is seriously interfered with. I have had patients tell me, who have gone through pervious attacks, that they prefer my manipulation of the chest, in that they feel more comfortable. Such manner of handling of the chest favors examinations upon the part of the doctor without undue exposure, as we have no overheated skin area, of considerable size, to uncover and expose. I happened upon this way of handling cases at a time when I had not enough of anything at hand to completely envelope the chest and as the patient had on a woolen undershirt (a clean one) and a clean, Canton flannel night gown, I let it go at that, and trusted to luck. He expressed himself as being so comfortable that, in a succeeding case, I followed the same mode, and with the same gratifyresults. We all know that radiation, with evaporation, tends to lower temperature, and if we have a chest wall covered with a mass of mud, or a thin jacket of cotton, there is little opportunity for evaporation to take place and the materials thrown out by the skin are held in a moist state under the dressing employed. They tend to add to the heat, rather than reduce it, and I believe, increase the severity of the disease.

The Editor objects to expectorants, owing to their possible irritation of the stomach. The little doses of emetine do not cause enough irritation of this sort to be noticeable, as but 1-67 gr. is employed in the single dose. Like the parent drug, ipecac, it causes sufficient relaxation to favor considerable perspiration and we see the toxins, other than possibly that of specific origin carried off by the skin. This agent likewise favors elimination by the liver, as it stimulates tha organ and here again, do we find the toxins removed, via the bowel. It goes without saying that I invariably keep the bowel relaxed sufficiently to remove any residual toxic material therein contained.

As I have said, I meet the indications as they may arise, and have no set line of treatment and follow absolutely no routine, case for case. One case may do well on aconitine throughout the course of the disease, while another may show indication for that drug in the morning and a few hours later, in the afternoon, call for veratrine. One case may require strychnine and digitagonistic to processes of repair in normal tissues: hence only weak doses should be employed in the treatment of simple, atonic, superficial lesions.

ADVANTAGES of a DOWN TOWN OFFICE

Having had an experience with an office in the home, that is, in the same building, and in the business district, we favor the down-town office.

The advantages of having the office open to the public at all hours, as it is when in the residence are easily apparent viz., saving the extra expense of office rental or investment and salary of office attendant, etc., also the opportunity to spend all leisure time one may have with the family. However these are only apparent advantages, we think when the whole subject is carefully considered.

It is next to impossible to observe

any office hours at the residence and the M. D. is liable to an unnecessary interruption at any moment, during time he wishes to eat, visit with his family, or with social callers at the home, etc., preventing any possibility of planning for any of these wholesome and necessary diversions from the otherwise constant routine of professional work. Many incidents of office work disturb the family, or callers and gives to the home the nature of an emergency hospital, which is not as interesting to every one else as it may be to the doctor.

It is so natural for the sick person to be secretive regarding their aliments even when there is no necessity for it, in many instances, that there is often a positive tendency to prefer visiting an office to the residence when seeking professional care and advice. It is even better to be in a building with a common entrance to other offices, so that it is impossible for anyone to say definitely that certain persons are making frequent or regular calls to the doctor's office, we have found and have had several of our best patients, with very ordinary ailments, so express themselves. It is asking too much of a doctor's wife to sacrifice all of her time in attending to the office and telephone calls, we think and not necessary in either. An ideal arrangement in the larger cities seems to be the common reception room with an office girl. In smaller cities and villages a combination with a dentist wherever it is practicable seems to suit conditions admirably. Both phones on the same line, ringing all calls at both the office and the home is a very desirable arrangement too. The office card stating the hour of probable return serves very nicely, with the open reception room and the telephone accessible to supplement it with the posibility of obtaining further information from the house. Placing the business on a par with other professional men and others in the business district we believe to be helpful too.

We believe in adhering quite strictly to office hours as announced. When patients have come to the house since we have had an office, even when located in quite a small village, we asked them to please return to the office with us, as all of our medicines and diagnostic apliances were there, etc. Usually they made their plans to be at the office at the proper time, after an experience or two of that kind. A doctor has the same right to some uninterrupted time with his family and friends at his home as do other people and can only obtain it with a down-town office, we think. In these days of automobiles and telephones it is not necessary for the doctor to live nearer the business district than other professional and business men. Why do attorneys and other professional men and women need a down-town office, if M. D.s do not? —J. V. S.

SAD FACTS AND FOLLIES of CHRISTIAN SCIENCE

By GRACE M. NORRIS, M. D. New York, City

CONCLUSION

S. S. Their one monument that bears even an outward resemblance to the myriad of noble structures that other believers have erected and dedicated to humanity, and to human woes, is that $2,000,000 temple at Boston, dedicated to the mother church.

F. S. Yes, where this heartless doctrine has its seat and from which their selfish dogmas flow.

S. S. Their cruel teaching benumbs all individual emotions, poisons private and domestic life, and where an

afflicted person looks for sympathy they meet a studied carelessness or a cold disdain.

F. S. Christian Science makes many startling claims regarding the cures said to take place through its means, and this one factor is of vital importance to the growth and financial means of the cult, and is persistently held up before the public as prima facie evidence of divine approval.

S. S. It is also the main factor for practical evil and injury to the world at large.

F. S. Yes, and in consideration it is only right and proper to sound a warning to the public against the subtle and dangerous forces that are ignorantly dealt with, before the practitioners of this black art are admitted to the homes.

S. S. Yet their so-called practitioners of Christian Science as a rule are as ignorant as the patient of the fact that they are playing with a weapon which is just as apt to destroy its operator as the enemy is.

F. S. The mental energy, falsely called "God," thus deserted and forced into unnatural channels, becomes a boomerang, and sooner or later returns to both patient and healer.

S. S. Yes, with accelerated and destructive force.

F. S. Like an evil genius, when once liberated, it cannot be again controlled.

S. S. It continues its machinations to the end.

F. S. If a Christian Science 'healer" points out to a man or woman that the Christian Science path is the one leading straight to health and happiness, and it may seem to their limited experience that this statement seems true, that they are happier and healthier than they have ever been, they should be warned and not deceived by these false appearances which are only temporary.

S. S. Every moment of ease and comfort thus attained will furnish more than its equivalent of pain.

F. S. Under the petal of every flower which bedecks the pathway of this gilded illusion lurks a hissing and venomous serpent.

S. S. If a drug, such as morphine or cocaine were given to a person suffering intensely from pain, the pain might be immediately removed, and what is more, the brain could be stimulated to a marvelous degree, so that persons with only a meager intelligence might for a time show great briliancy of mind.

F. S. People ignorant of the real nature of the drug and its real action, might say that it was the most beneficent force in nature.

S. S. But we know very well what the results of drug taking are, and that the temporary loss of pain and the temporary briliancy of mind are bought at a fearful price.

F. S. An insane person sometimes seems to have strength greater than ten ordinary men.

S. S. Are we therefore to say that insanity is good?

F. S. The methods which Christian Scientists have stumbled upon of treating disease, has nothing whatever to do with "Christ" and "Christianity."

S. S. Christian Scientists have simply found out a way of unlocking some of the psychic and vital powers which are in the possession of all.

F. S. Nevertheless Christian Science does appeal to the regular practice in many ways.

S. S. Yes, when a patient is about to die, for instance, an M. D. as a rule gets the case. And has the credit of having the patient die on his hands.

F. S. Instead of under Christian Science treatment.

S. S. This treatment, you know, being divine, must not be allowed to fail, so "Mother" Mary A. conveniently gets a message from God telling her what to do when patients are real sick.

F. S. This message she adds to her long list of "Final Revelations" in her Holy Church Manual; here is one on

page 39 of the sixtyseventh edition. "If a member of this church has a patient whom he does not heal and whose case he cannot fully diagnose, he may confer with an M. D. on the anatomy involved, and it shall be the privilege of a Christian Scientist to confer with an M. D. in Optology or the Science of Being."

S. S. That is a real scientific method of getting the case off their hands.

F. S. Exactly. For now, if the patient dies under the M. D.'s care, the Christian Science doctor says, "It would never have happened if I and God had kept the case."

S. S. Yes. If the M. D. refuses to take the case and the case and the patient dies on the Christian Scientist's hands, "It was a case where the Medical doctor's hostile thought, or malicious animal magnetism got in its work and killed the patient."

F. S. Whatever happens, Christian Science always wins.

S. S. Yes, and if Christian Science has ever cured a case of cancer, I must have this word corroborated by a reliable member of the medical profession —that the disease was cancer—not a wart or some simple growth.

F. S. If Christian Science had ever cured and could cure a case of palsy, we have a right to ask why the physical frame of Mary A. Eddy shook with that dread disease.

S. S., Yes, and the supreme physician could not heal herself.

F. S. If it is true that Christian Science has ever cured a genuine case of deafness, we as M. D.'s have the right to ask why the founder of the cult was for years afflicted with this malady.

S. S. Yes, if Christian Science can cure a true case of diabetes, why was one of her faithful students and companions sent from Mrs. Eddy's home to die of that dread disease?

F. S. Doctors of Medicine and men of science are not attacking or discouraging any method or system new or old which in any way tends to improve the mental, moral or physical condition of the human family, or which can ameliorate human suffering.

S. S. The Profession is too honest and humane for that.

F. S. When anything new has in the past been presented to the medical fraternity which was in advance of the old methods, they have not hesitated to adopt the same.

S. S. And notwithstanding what this self centered woman has said and written to their discredit.

F. S. History shows that whatever has been accomplished for humanity, has come as a result of conscientious labor of scientific men.

S. S. The great law of the universe records unselfish research.

F. S. And when that time is ripe for further revelations or discoveries along pathological lines, these discoveries will come to those students who have sacrificed their time, substance and even lives in the research and not through any false announcements or grimy cult.

S. S. I am sure M. D.'s will all turn Christian Scientists as soon as it is proven, even approximately, that Mother Eddy's claims are true. (Sic.)

F. S. Naturally, however, they look for some proof, and to actually see one of her miraculous cures. They have not asked for a big miracle—just a little easy one.

♣ ♣ ♣

Johnny—Papa, would you be glad if I could save you a dollar?

Papa—Certainly, my son.

Johnny—Well, I saved it for you, all right. You said if I brought a first-class report from my teacher you would give me a dollar, and I didn't bring it.

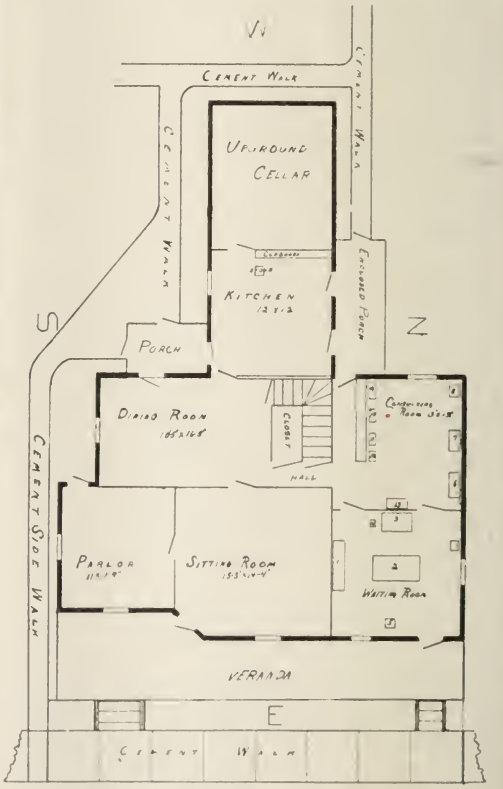
PLAN OF OFFICE

W. H. TUCKER, M. D.
Eldarado, Ohio

In the April number of the "Recorder"' will be found the picture showing the very attractive appearance of the office of Dr. W. H. Tuckekr, Eldorado, O.

The accompanying illustration shows the plan of the office rooms and of his residence, with which the office is combined, drawn by his wife, Mrs. Grace Tucker. This is the sixth entry in the competition for a prize and we shall make the first decision of the one who wins in the July number, therefore, if anyone else desires to compete, it will be necessary to send in your photos and drawings at once, not later than July 15th, to have them considered in this series. Offices combined with residences have much in their favor, especially in small cities, but there are some disadvantages, we think. Perhaps some one will undertake to point them out. We are sure that the plan here illustrated will meet with the approval of very many of our readers. We would prefer to have a vote of all of our readers to decide the "winner" but fear that it will be impracticable because so few will be willing to take the trouble to write and tell us what their choice is. We shall be glad to hear from any one

Furnishings of office roms: (1) Bookcase; (2) library table; (3) mantel for papers and magazines, large mirror hung above; (4 and 5) large rocking chairs; (6) Betz operating table; (7) wall case for instruments; (8) electric cabinet, galvanic, faradic and cautery currents; (9) desk and cabinet for mi-



croscope, oculists trial case sundries; (10) spraying and nebulizing outfit and dressing table; (11) hot air apparatus; (12) wall shelves for dressings, bandages and regents; (13) hang test chart for testing vision on wall; (14) shelves and drawers for drugs and supplies

The Wisconsin
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J. V. STEVENS, M. D. }
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ORIGINAL ARTICLES are solicited from our readers. We wish articles which are sent us to be contributed exclusively to this magazine. We will send the writer of any original article, if desired, twenty-five extra copies of the number containing the article. We are also willing to send copies to the professional friends of the author.

LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 JUNE, 1912 No. 6

STANDARDS FOR OUR MILK SUPPLY.

The great importance of this question at any time of the year, is enhanced by the arrival of the season when there is unusual danger to follow any carelessness in giving proper attention to securing as pure milk as possible and in caring for it to prevent any further contamination with bacteria. Bacteria that cause typhoid fever, diphtheria, scarlet fever, infantile and other diarrhoeas, tuberculosis and other diseases are frequently found in milk, which makes it use, when they are present, extremely dangerous.

More than a year ago New York City commenced to disclose to the people the result of their examination of the milk supply of that city, which they had not previously done.

Every milk dealer in that city has a rating on the books of their health department as to the number of bacteria found in the samples of the milk that they sell, from time to time, in the frequent tests that are made.

Any milk consumer in that city who is sufficiently interested in the purity of the milk delivered at his home to enquire, may find out just what the character of his milk supply is. Those having the greatest number of bacteria being rated as the most impure and those having the fewest as the nearest pure.

Bacteria and dirt are found in close relation to each other, and bacteria grow very rapidly in contaminated milk, not properly iced and cared for. Established standards are arranged based on the number of bacteria found in the various samples.

An approximate estimation of the number of bacteria in any sample of milk can be obtained by taking one cubic centimeter, (about twenty drops) of milk, mixing it with a warm beef juice jelly, which when cool hardens, holding each germ firmly in its place.

In a few days each germ forms a colony in which it is surrounded by thousands of its own kind. It can then be seen by the naked eye, as a white dot about the size of a pin's head. The number of these dots show the comparative number of bacteria by hundreds or thousands in a cubic centimeter. Health departments in all cities should safeguard the health and lives of their citizens, by frequent tests of the milk supply and by punishing all those who violate the laws respecting the furnishing of this important article of diet, especially used for children.

Many children's lives have been sacrificed by want of this reasonable care. All health departments should furnish directions as to the care of milk to preserve it in the best possible condition and where practicable the milk intended for infants should be supplied twice per day during the heated season of the year. Many lives of those unable to

protect themselves can be saved each year in this way and other ways, that should have our constant and most careful attention.

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In the Inter Ocean of April 14th, 1912, we read that at the National Dairy Show Association meeting to be held in Chicago, at the International Live Stock Amphitheater, in October, 1912, plans for waging a vigorous campaign in the interests of pure milk, better milch cows and cleaner dairies, will be formulated and they will take up matters of vital import to our rural and city life. They intend to go at the matter of pure milk in such a way that insanitary dairies will be a thing of the past. The milk supply is one of the most important in the building up of the nation and it is the intention of this association to bring about the many needed reforms

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For the week ending April 13th, 1912, 681 deaths were reported in Chicago, a decrease of 99 from the preceding week's report. 92 deaths from tuberculosis, as compared with 106 and 127 deaths from pneumonia, as compared with 147 for the former week. The deaths of children under one year of age fell from 155 to 139. The report sounds another warning against impure milk and urges the city to take the whole question into its own hands. The milk comes to the city from 12,000 farms having 120,000 cows. Unless constant and competent supervision is exercised pure milk will not be delivered.

In 165 cities of the German empire there are 251 "care stations." One effect of their establishment is to reduce the percentage of bottle fed babies from 60 to 35% and to decrease infant mortality from 8.4 to 4%. —J. V. S.

LETTERS FROM OUR READERS.

There is one feature of medical work which I would like to see given a special department in your magazine and that is for the physician who dispenses his own medicines. I know that I have gleaned valuable facts and formulae which no doubt some of my fellow practitioners would find of value and vice versa their articles would help me and I take it that the average recent graduate is not any too well versed in the practice of pharmacy. There is a tendency to let the pharmaceutical houses with their attractive specialities run the practice of medicine along empirical lines whereas not only a physician's diagnosis but his treatment ought to be along scientific lines and closely adhering to the Pharmacopoea and national formulary.

Thanking you, I am,

Sincerely yours,

Dr. C. P. Fordyce.

Manley, Neb.

Note.—Please comply with this valuable suggestion. This means YOU, for everyone can contribute to such a department, which we will establish as soon as material for it is available.

—J. V. S.

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The Recorder is getting better every month. Your new departments give us many practical pointers and that is what a medical journal should do. Just enough technical stuff to balance that of a practical nature is what makes a journal valuable to the average reader.

I am, with kindest regards,

Very sincerely,

Geo. L. Servoss,

Gardnerville, Nev.

April 11, 1912.

♣ ♣ ♣

"Do you think he would be cool in time of danger?"

"I think his feet would."—Houston Post.

THE DOCTOR'S LIBRARY

CESARE LOMBROSO, A Modern Man of Sicence. By Hans Kurella, M. D. Translated from the German by Mr. Eden Paul, M. D. Pages 194, Cloth, Price $1.50. Rebman Company, 1123 Broadway, New York.

This volume presents an excellent biographical sketch and study of the work of Ceasare Lombroso, the man and the investigator. We have in the past had occasion to refer in the pages of The Recorder to the great work of Lombroso. Our readers who are interested in the work of Lombroso will want this book. There is a most interesting discussion of criminology in the volume which presents Lombroso's work in criminal anthropology and psychology. The book also deals with Lombroso's activity as a social reformer. Lombroso was the first physician to study pellagra understandingly and although his conclusions were not accepted at first, eventually his opponents were compelled to accept his teachings in the disease. The work is very fascinating reading for any physician.

—J. P. T.

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A TEXT BOOK OF ALKALOIDAL THERAPEUTICS. "A condensed resume of all available literature on the subject of the active principles added to the personal experience of the authors." By W. F. Waugh, M. D., and W. C. Abbott, M. D. Third edition revised and enlarged, 1911. The Abbott Press, Chicago, 760 pages, Price $5.

"Dedicated to those who believe in the smallest possible quantity of the best obtainable means to produce a desired therapeutic result." In chapter one is found a complete and carefully considered answer to the question, (Is there a rational basis for a scientific therapy?), from the viewpoint of the authors. Those to whom this form of exhibiting the various drugs used as medicines, has appealed, the volume as invaluable in the assistance that it will afford them in becoming still further acquainted with the remedies prepared in this way and their therapeutic uses and indications. To those who have not used them there is much of interest and many suggestions that will enlarge their field of therapeutic thought and practice. In fact the book is indispensable to the reader and thinker concerning medical subjects whether he has commenced to adopt this plan of medication or not. The most skeptical can not afford to ignore a movement having so many enthusiastic adherents, but owes it to himself and to his patients to consider its claims carefully. Those who have or may become interested in the subject will be better satisfied in pursuing the study still further, by the use of the companion book, "The Text Book of Alkaloidal Practice." Either or both are too valuable additions to any M. D.'s library to be overlooked. They can be purchased from the publishers direct.

—J. V. S.

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CURRENTS OF HIGH POTENTIAL AND OTHER FREQUENCIES. By Wm. Benham Snow, M. D., Late Instructor in Electric Therapeutics, New York, Post Graduate School, Editor of the Journal of Advanced Therapeutics, etc. Page 275, Illustrated. Price, Cloth, $3.00. Scientific Authors Publishers Company, 329 W. 57th St., New York.

The increased and successful use of high frequency currents has made a demand for reliable books on the subject. This volumé presents the subjects thoroughly, describes the apparatuses and principles and gives the technique for proper treatment of disease.

The author has had an enormous experience in the field of electro-therapeutics and is in a position to speak with authority. The book gives some of the results of his original investigations. The physician who does not give the subject of high potential currents attention, is losing a great and valuable therapeutic power. This volume makes a splendid guide for the study of the subject. This work should be in every physician's library.

♣ ♣ ♣

TEXTBOOK OF OPHTHOLMOLOGY. In the Form of Clinical Lectures. By Dr. Paul Roemer, Professor of Opthalmology at Greifswold University. Translated by Dr. Matthias L. Foster, Society, etc. Vol. I. Pages 275. Cloth, Price $2.50. Rebman Company, 1123 Broadway, New York.

This is the first volume of Roemer's Ophthalmology which will be published in three volumes. The volumes will cover the subject of opthalmology thoroughly in a practical manner. We advise our readers who wish a modern, practical treatise on the subject to place their order for the set. This volume contains 52 illustrations in the text and seven good colored plates. The first volume is devoted to examination and to diseases of the conjunctiva, cornea, iris and lens. The publisher's announcement so well summarizes the objects of the work that we uote the following from it.

1. Roemer's work differs from other textbooks in the mode of presentation. The ordinary, familiar language of the clinic has been employed for the most part, instead of the scientific.

2. More space is given to etiology, and to the differentiation of one disease from another, to the differential diagnosis.

3. The application of the results of the study of immunity to diseases of the eye, and, indeed, the sudy of immunity itself, is developed more thoroughly than in other textbooks. Roemer is well known as an advocate of immunity.

4. The discussion of disputed points in regard to details of anatomy, physiology, etiology, etc., is more free than in any other book on the eye. All sides are given candid consideration. Conflicting theories are contrasted. The author's views are given logically and clearly, usually after those held by others have been propounded.

5. The intimate relation of ophthalmology to neurology in particular, among the various branches of medicine, is given considerable space.

6. Fundamentally, of course, all textbooks on ophthalmology are alike, i. e., all try to teach how to recognize and treat diseases of the eye. They differ mainly in the language employed, and Roemer has the happly faculty of presenting a clearer picture than others have done. He is painstakingly accurate in demonstrating his points.

7 The time he gives to the manner of dealing with patients, is something that cannot be met with in any other textbook on the market. —J. P. T.

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MAKERS OF MAN, A Study of Human Initiative. By Charles J. Whitby, M. D. Pages 424. Illustrated with 47 Half-Tone Plates. Cloth, Price $3.00. Rebman Company, 1123 Broadway, New York.

This is a work which should be in every medical and every general library. It is a study of the lives of forty of the world's greatest men as seen by a medical man who is a student of psychology and philosophy. As Dr. Whitby says the world's greatest men have no private life and he turns on the search light of science that we may see all the qualities of their lives and profit thereby. The author shows in detail the physical and mental characteristics of the individual under discussion.

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VOL. XV JULY, 1912 NO. 7

INDICAN

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

It was not a great many years ago that the above substance was hardly ever, if at all, mentioned in urine analyses. Of course, its existence in the urine has been a well-known fact for a long time. But it is only in comparatively recent times that its enormous significance has begun to be realized. So much so that even the exploiters of certain proprietary remedies have deemed it advisable to include in their literature directions for making the tests for indican, together with treatises on its significance.

Most authorities still persist in the statement that a certain amount of indican in the urine is normal. So far as that goes, we also meet with the frequently repeated statement that small amounts of albumin or glucose are not pathological. Nevertheless, all of these substances are products of disturbed metabolism, and it would be much more rational to consider even small amounts pathological, than to admit them as normal.

In the process of putrefaction, which unfortunately seems to be one of the usual, not one of the normal, processes in the intestine, a number of decomposition products are formed. These are indol, skatol, phenol, and others of lesser importance. Most of them pass away in the feces, and it is undoubtedly nature's intention that all of them should be disposed of in this manner. But this does not always occur. When the products of putrefaction are in excessive amounts, or, on the other hand, when stagnation of the intestinal contents takes place, considerable quantities are absorbed and pass into the circulation.

As to what causes the putrefactive changes which give birth to these bodies, opinions differ. As a rule the colon bacillus is considered as the chief indol producer in the intestine. What part the anaerobic bacteria, such as the bacillus Welchii, putrificus, bifidus and others play in its production has never been thoroughly ascertained. Not all colon bacilli produce indol in artificial cultures, neither has it ever been possible to cause the anaerobic bacteria to do so. In all probability, the substance is a product of protein putrefaction, regardless of the organisms causing the putrefaction.

As all of these products undergo the same changes after absorption, we shall follow up the most important, that is, indol.

In common with other materials taken from the intestine, the indol is carried by the portal blood to the liver. Here, by a process of oxidation, it becomes indoxyl, and the latter product unites with potassium sulphate to form the conjugate indoxyl-potassium sulphate or indican.

From the liver, indican is carried to the kidneys along with other wastes and excreted in the urine. It will readily be seen that the relative amount of indican in the urine can be taken as an index to the probable amount of indol absorbed from the intestine.

This, however, is subject to various contingencies. It is not likely that all of the absorbed indican is carried to the liver. Some of it may remain in the circulation. Again, even if the indol were all oxidized by the liver, its end-product, indican, may not all be delivered to the kidneys. There is reason to suppose, however, that the toxic nature of indol is largely destroyed by the process of conversion, and that in indican itself we have a comparatively harmless substance as compared with its progenitor.

However this may be, it is an undoubted fact that a grave train of clinical symptoms usually exists together with indicanuria. That these sympatoms are due to the circulating toxin, whether it be indol or indican, seems without question. All the various manifestations of auto-intoxication, such as headaches, nervous symptoms, stupidity, and all the other vague troubles so often found can be traced to this product and disappear when its absorption is checked.

To stop the absorption of indican, two things are necessary. The first is to thoroughly cleanse the bowels by hot flushings. The second is to stop its further production by withdrawal of the food which gives rise to it, namely proteids, especially those of animal origin, such as meat, eggs, cheese, etc.

It has been found in our experience, that many cases who have been put on a non-protein diet for this reason, and have also used bowel flushings for some time, an increase is noted in the amount of indican excreted in the urine. This may become quite excessive at times. Although seemingly anomalous, this phenomenon is easily explained by the fact that where large amounts of indol-containing material are lodged in the bowels, they do not become loosened up at first, but as the flushings are continued, more and more material is dislodged with a consequent absorption of greatly increased quantities of indol and excretion of indican. As soon as the bowels are clean, the absorption stops and the extractive disappears from the urine.

It should be remembered in this connection that the bowels are not the only place in the body where indol is produced. Wherever a large collection of pus is undergoing putrefaction, such as in an empyema, for instance, indol may be produced, and indican consequently excreted. Such cases, of course, can easily be differentiated from indicanuria of intestinal origin, as soon as the proper clinical diagnosis is made.

It is probable that the substance called indican for convenience, is not always the same chemically. We have found in a large number of experiments extending over several years that the various extractives met with, which all go under the same name, do not behave the same by any means. This is true not only chemically, but clinically. It has been possible in a rough way to associate different kinds of indican with correspondingly different clinical conditions.

To make this clear, attention must be called to the fact that in testing for indican we must first break it up into indoxyl and potassium sulphate by treatment with strong hydrochloric acid, and then by oxidizing the indoxyl to indigo-blue make its presence visible. By taking advantage of the solubility of the latter substance in chloroform, the test becomes more striking by concentration of the blue color in a small compass.

For the purpose of oxidation, a number of substances have been suggested and used. Jaffe originally recommended a solution of calcium hypochlorite. Since then other oxiding agents, such as sodium hypochlorite, potassium chlorate, potassium permanganate, nitric acid, sodium nitrite, ferric chloride, and hydrogen peroxide have all

been used. Probably every analyst has his favorite, which he uses to the exclusion of all others.

In the course of our work we found that a great many urines failed to give the test for indican when one oxidizing agent, say hydrogen peroxide, was used, but gave a very satisfactory reaction with another oxidizer, for instance, potassium chlorate. This peculiarity was found to be sufficiently constant to merit more or less attention, especially as the different findings were usually associated with their own clinical pictures, as before stated.

Another reason for suspecting the existence of more than one variety of this extractive was the fact that while in some reactions the indigo-blue produced seemed perfectly soluble in chloroform, diffusing evenly through that solvent, and according to its quality, tinting it from a faint blue to a dark blue color, in others this was not the case. For while a blue substance was liberated, which seemed insoluble in water, as it sank to the surface of the chloroform, it did not dissolve in the latter, only to a small extent. The result was the formation of a blue ring between the two liquids the cholorform remaining practically colorless at the bottom of the tube.

This reaction is usually very slow, thirty minutes being necessary for the formation of the blue ring. Such a specimen might be reported as negative for indican unless sufficient time be given for the characteristic reaction to appear.

In other specimens the blue color appears immediately after the addition of the acid, no oxidizer being necessary. Probably this form of indican has the power of absorbing oxygen from the air as soon as the indoxyl is liberated. In these cases a very soluble indigo is usually produced, and not a ring reaction.

We have taken the liberty to name the two forms of indican respectively, slow oxidizing and rapid oxidizing.

Different and characteristic forms of indican have also been found associated with putrefaction of cheese, eggs and nuts, where these are eaten in excess.

In addition to the varieties described above, others are met which differ in their color, that is, in the color of the compound produced by oxidation. Thus occasionally a red substance is produced and at other times a yellow, so that the chloroform instead of blue takes on either a red or yellow color. Of course, both skatol and iodine may produce this appearance, but the skatol derivative is insoluble in chloroform. It must be extracted by amyl alcohol. In the same way iodine is not likely to lead to error, as its color is characteristic, and its decolorization by sodium thiosulphate offers a means of differentiation.

Mention has been made before of the possibility of indol itself, instead of its derivative, being excreted in the urine. This is found to be the case in many instances. Every specimen of urine giving a negative reaction for indican by a number of different oxidizing agents, should be subjected to the indol test. Many will be found positive.

The presence of free indol in the urine must be interpreted as due to failure of the liver to oxidize indol to indoxyl. Consequently the liver may be suspected of failure to perform its functions, at least those of oxidation. In such a case in addition to the indications already stated with reference to the intestines, the liver must also be looked after.

To resume then, we may conclude—

1. That indol or its derivative indican are toxic in character, and that their absorption may produce grave disturbances.

2. That their formation and absorption may be checked by the withdraw-

al of protein food, and bowel flushings.

3. That there are several varieties of the substance, both from chemical and clinical evidences.

4. That in a general way, its importance is much greater than is usually recognized among the profession, and that more attention should be paid to preventing its formation and absorption than is now done.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

In 1876 I resigned from the Medical Corps of the U. S. Navy and commenced private practice in the city of Philadelphia. In my first summer I met a redoubtable antagonist in cholera infantum. The first encounter sent me scurrying in full retreat to my library upon which I fell back for reinforcements. In my English, German and French text-books I found scarcely anything on this topic. In fact the disease appeared to be unknown outside of America.

Even Nienmeyer, on whom I had already learned to rely, and whose fine clinical discrimination and sound reasoning, had helped me to comprehend many pathologic conditions, gave me little direct aid here.

Turning to the American writers, I found in Meig's and Peppel's work on Diseases of Children, a copious fund of information. The various phases of the disease were graphically depicted and the standard methods of treatment prescribed. But at the end of the chapter, a disquieting statement was made. A prescription was given containing Haller's acid and the authors stated that they had not given it a trial but intended to do so the following summer.

I will ask the reader to stop with me here a few moments until we make a diagnosis of this very remarkable phenomenon. It is the crux of the situation as pertains to this disease and a comprehension of it opens the way to an understanding of many perplexing situations presented by the study of the modern medical profession. My explanation of the matter is that the end of the season found the distinguished writers so thoroughly disheartened at the results of their treatment that they were ready to desert their therapeutics entirely for a new and untried proposition but the following season saw them so thoroughly habituated to their old remedies and the methods based upon them that they fell back upon these hoping that with closer study, greater care and finer discrimination, they would obtain more satisfactory results than in the past.

Vain hope! Rhubarb and calomel, castor oil and chalk mixture, bismuth and Hope's Mixture, the whole astringent family, et id omne genus, singly and collectively, applied with all the skill possessed by the profession, were and are capable only of saving the mild cases while the severe ones died.

My first lesson in the treatment of this malady came from observation of a case. The child was better each day despite the heat, the symptoms recurring as night came on. During the day the mother took the baby to Smith's Island, in the Delaware River; returning in the evening to her home. This was a house in a small court near the Delaware and this particular house was situated directly over the toilets used by the entire court. These toilets were connected with the river by a short untrapped sewer. The rising tide brought the contents almost to the floor of the toilets and at all times the stench from these was very great. This was the atmosphere in which the child

grew worse even when the heat of the day was gone.

From this, I learned that there was more to the etiology of cholera infantum than the summer heat.

My next lesson came when I saw a nurse attempting to feed a dying child on milk that had coagulated in the cup. I had given most explicit instructions as to the management of the food and found that not the slightest attention was being paid to them.

By such steps knowledge comes to the doctor and my success in the treatment of this group of maladies increased until I had acquired a reputation quite unconsciously to myself. Nevertheless my results were still unsatisfactory, and the worst cases all died. At last illumination came rather suddenly while studying the phenomena presented by a dying baby. The thought came to me that I was dealing with a gastrointestinal infections, and that fecal matter grown poisonous within the body was infinitely more dangerous than when outside of the body. That baby was dying when the idea came to me but he didn't die then. That was in 1880, and this is 1912, and he is alive yet; and from that day to this I have not last any case of cholera infantum.

This is the treatment: Clear out the bowels with calomel, rhubarb, castor oil, saline laxative, or what you please. I generally use calomel followed by Abbott's saline, because they are more likely to be retained by the child's stomach. Then give zinc sulpho-carbolate, from one-sixth grain to two grains, repeated every half hour, one hour or two hours until the diarrhea stops and the stools become natural. If the baby's stomach is very irritable and the vomitus is sour use sodium sulphocarbolate in at least double the dose. In the declining stages, when reconstruction is indicated, also with rickety children and whenever lime is indicated use calcium sulphocarbolate in the same doses as with the soda salt. In all cases use the chemically pure salts and up to the present, so far as I know, that means Abbott's. Suppose you are called to a case where cholerraic symptoms have already developed and the danger of death is imminent. Do not wait but while instituting the treatment above advised, at once give atropine, hypodermically gr. 1-1500 repeated rapidly until the face flushes or the pupils dilate. By this time the excessive pneumogastric irritability will be under complete control and the danger will be over for the present.

The necessity of absolute perfection in the child's feeding, in the air he breathes, and in moderating the heat so far as is possible, are too well known to require detail. Give no food whatever while the vomiting is incessant; but the need for water may be so great as to necessitate hypodermoclysis. Usually a lukewarm bath prolonged perhaps for an hour or more suffices. My first food is invariably raw egg white diffused through three times its bulk of ice water. Teaspoons of very hot coffee furnish the best stimulant. Despite the innumerable perils surrounding it, milk is the staple food when the crisis is over.

For those who can afford it I have long been in the habit of ordering huge blocks of ice in tubs placed about the nursery. I spread a blaknet on the floor and let the baby play upon it unhampered by clothing. For older children keep the bath tub full and let them climb in it and out at will. Keep the living rooms dark, but well ventilated.

The best way, after all, to treat cholera infantum is to prevent it. Do not wait for its development, but instruct the mother to send for you at once on the appearance of a loose or offensive stool. Then a little calomel, fololwed by saline, or a few doses of that admirable old combination of rhu-

barb, ipicac, hydrastus and aromatics. With soda, known as the neutral cordial, usually suffices to prevent further trouble. However I always add sodium sulpho carbolate to the rhubarb mixture, and continue it afterwards as a salutary and harmless precaution.

Cholera infantum is no longer the terror it was thirty-six years ago, but the mortality in infantum during the summer is still much larger than it should be; or would be, I firmly believe, if the suggestions herein given were generally adopted.

DEPT. OF SURGERY

By Hugh N. MacKechnie, A. B., M. D. C. M., Chicago, Ill.

SURGICAL TREATMENT OF COLITIS.

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Both in private and in hospital practice cases of colitis are continually presenting themselves for treatment. Some of these have been under observation for long periods of time; many of them have grown weary of the continuous round of activities in their behalf and have stopped treatment, only to renew their efforts, when their condition again became unbearable or alarming. After repeated successful or only partially successful attempts at a cure and when the patient has become discouraged, he comes or is sent to the surgeon for further treatment. Three questions at once present themselves (1) what is the etiologic factor (2) what can be done for the case and (3) what results may be anticipated from treatment, and these three questions require careful consideration because of the frequent presence of a neurotic element which has either preceded or is grafted on the results of a gross pathology.

Colitis, notwithstanding its name, is not an inflammation, it is rather an oedema of the mucous membrane of the colon characterized by a greater or less amount of mucous in the stools, accompanied at times by blood.

The causative factors may be briefly enumerated under the following heads:

1. Circulatory: a Cardiac incompetence. b Portal obstruction. c Pressure on messenteric veins.
2. Digestive: a Indigestion. b Coarse foods. c Constipation.
3. Nervous: Neurasthenia, etc.
4. Exhausting diseases and debilitated conditions.
5. Parisitic: a Bacterial. b Protozoon.
6. Gross pathology with intestinal stasis: a Malignant disease. b Ulceration and cicatrical contraction. c Tumors outside the bowels. d Inflammations with adhesions. e Constricting bands. f Neighboring inflammatory processes. g Enteroptosis. h Kinks in the bowel. i Jackson membrane.

Although the scope of this paper is limited to the surgery of the condition and this is largely covered under the last group one must not wholly slight the non-surgical factors but take them into careful consideration in the ante and post-operative treatment. No operative procedure will produce a cure provided an intratestinal irritation is allowed to persist or a circulatory or nervous disturbance is not dealt with.

The pathology of this condition varies markedly in the various stages and the associated pathology must necessarily vary with the conditions. The mucous membrane is congested and thickened but there is no round-celled infiltration nor inflammatory overgrowth. The epithelium is swollen and paler than normal. The surface is more or less covered with mucous which may have epithelial cells in it and also be blood-stained. At times

there is ulceration in areas of considerable size or it may be only at the base of the crypts and be very small. Perforation in these ulcers is rare, the process developing so slowly that surrounding protective adhesions have time to form. Hemorrhage frequently occurs and in such quantity as to produce collapse. Distension of the bowel above the area of constriction, with marked thinning of the intestinal wall is present. The epithelium is degenerated and tends to be cast off rapidly. At the point of constriction there is usually a thickening when the etiologic factor is intrinsic or a thinning of it is extrinsic.

THE SYMPTOMATOLOGY.

The most marked symptom in these cases is the mucous in the stool. This may come away in small pearly masses, in long strings or in casts of the bowel in the more severe cases. There is pain of an indefinite character over the abdomen, with perhaps a more severe localized area at the point of obstruction or ulceration. It is sometimes referred to other areas. There is usually a diarrhoea but contipation is often marked and frequently these two conditions alternate. There is much gas formation with tympany, frequent eructations and passage of flatus. The tongue is coated, appetite is poor and variable, nausea is frequently present and persistent, patient complains of headache and a heavy, dull feeling, lacks ambition and the ability to work. The skin is "muddy," dry and harsh and "liver spots" are frequent. Temperature is usually normal but with much fermentation may be slightly elevated. The pulse is slightly accelerated. The blood may or may not show an anemia but always exhibits a lymphocytosis. The urine shows an acidema, a high amount of putrefaction, sometimes albumen or other conditions indicative of irritation from excessive work thrown upon the kidney. The stools may be either hard, dry scyballae or very soft, and with blood stains at times. Abdominal examination may reveal the presence of some tumor. It will usually show tympany and in many cases a marked tympany above the part constricted. Bimanual vaginal examination may also show a pelvic condition sufficient to cause the trouble, either a tumor, an inflammation with adhesions, or a displaced uterus. Rectal digital examination in most cases gives no information unless it be in the presence of hemorrhoids or a low malignancy. Sigmoidoscopic examination shows the presence of mucous, and in cases where an ulcer is low down it may show the ulcer. The sigmoidoscope is often a valuable aid in passing the rectal tube through a constriction, which otherwise curls on itself and will not pass beyond the obstruction. I have found this of value in two cases, one where a band of adhesion obstructed the bowel, and the other in which we found it difficult to pass the tube beyond a prominent valve.

The diagnosis of colitis is by no means a difficult task but the real point of importance is the etiologic diagnosis, and this is sometimes not easily made. A careful history and a full physical examination, including abdominal, vaginal, rectal, hematologic, fecal and urinary, should in a large variety of cases lead one to a fairly certain conclusion. A few, however, will not be cleared up until the abdomen is opened and a slight adhesion or other undiscovered condition be found as the causative factor.

TREATMENT.

It is wise in these cases to make haste slowly to the operating table. A few days or a week in careful consideration will often save time and subsequent worry, and this time occupied in preparing the patient will be found to have been well spent when convalescence is setting in. In fact I think it a good rule to follow in all cases where

such a thing is possible, to insist on a careful preoperative treatment. By this I do not mean scrubbing and sterilizing the patient externally but attempting to cleanse to the best of our ability internally, to decrease the bacterial toxin product, and to lessen the burden of the patient as much as possible for his fight with operative shock.

A very light or preferably a liquid diet for a week or longer; the use of salines as Sod. Phos., Sod. Sulp. and Sod. Citras aa ℥ss in water three times daily; a liberal use of water up to 2000 cc daily; high colonic flushing each night; good exercise and fresh air are a few of the important points. This treatment serves to unload the bowels and to keep them unloaded, it dilutes the toxines for excretion and relieves the irritation of the concentrated poison on the kidneys. Moreover, it is well to estimate carefully the neurasthenic element and so far as possible relieve the tension by putting the mind at ease, by using asafoetida, valerian and similar drugs, and general tonics and hematinics.

Having then made a careful diagnonosis and having given the patient a preoperative preparation, it remains to remove the pathology to permit the patient to advance to complete recovery.

In rectal cases the operative procedure may be carried out frequently without abdominal section. Hemorrhoids may be removed with the cautery or by dissection, the sphincter paralyzed, and a rectal plug inserted for five or six days. Then it is removed by a liberal dose of Ol. Ricini. Following this the treatemnt is light diet, cleansing and laxatives.

A stricture inside the bowel, within reach may be stretched or carefully incised through the anus and, being kept stretched, allowed to cicatrize.

Perineal lacerations should be carefully and thoroughly repaired.

The uterus, if displaced, will require suspension, preferably by shortening the ligaments, or in patient past childbearing period, may be fixed through the vagina.

Tumors in the pelvis, which are pressing on the bowel, causing constriction or irritation, if not too large, should be removed through the vagina, otherwise the abdominal route must be chosen.

Pelvic adhesions with pus tubes, or following old inflammations, are a bugbear in surgery. How to remove them and relieve the accompanying stasis in the bowel and then prevent their return is a problem. That a large number of them are better undisturbed we will admit but many cases can be markedly relieved, if not cured. The greatest care should be exercised in preserving as much of the surrounding normal peritoneum to cover raw surfaces as possible. To aid this, loops of bowel may be utilized if placed in such a manner as to cause no kinking. The uterus and adnexia should be suspended as far as possible from the rectum to prevent pressure or adhesions between them. Various means have been used to prevent the union of raw surfacs with various success; viz, olive oil, petrolatum combinations of vegetable and mineral oils. Powders, especially di-thymol-deiodid, I have found quite useful in producing at least functional results.

Bands of adhesion are frequent causes of constriction of the bowel. These may take on many forms—appendix, epiploica, appendix vermiformis, post-operative bands of adhesions. Each of these require its separate form of treatment but they all require that the adhesion be broken and that the raw surfaces be carefully buried to prevent new bands forming.

Ulceration and malignant disease give the surgeon much concern, the former because of the fear of a commencing malignancy which is not apparent, and the latter because of the inability to know for a certainty the extent of the dissemination of the met-

astases. If one can have a frozen section made and microscopic diagnosis given in the operating room, the treatment of the ulceration by excision or by resection of the bowel will give desired results. In carcinoma a more extensive dissection will be necessary to include all the indurated affected lymphatics and then a few beyond, for we often find carcinoma cells in glands which do not show gross reactive changes.

Visceroptosis is a very frequent condition in which we get a mucous colitis. Under this head we include a displacement of any of the organs in the abdomen. With this we invariably get a displacement of the colon or some part of it, a kinking or bending and a congestion of the organ above this. At times there is in the colon alone, as I found one case caused by omental adhesion to an abdominal scar, drawing the transverse colon down 2 in. below the umbilicus. Again, it includes the stomach with a lengthening of the gastro-hepatic omentum. In one case I noticed this when examining the pelvis for other conditions. The colon presented itself in the upper end of the wound 3 in. below the umbilicus. There were no adhesions but there was a gastric dilatation and kinking of the pylorus, which has been relieved by a shortening of the gastro hepatic omentum by application, and a light non-irritating diet to relieve the bowel as much as possible. This was impressed on me where one case, after two weeks of no mucous, ate freely of bran bread for the laxative effect and passed some mucous. Cessation of the bran bread diet again relieved the condition. Tonics and hematinics should be administered and of these I am partial to the hypodermic injections of iron and arsenic. I believe the results are noticeably quicker and are markedly better.

Whatever operative procedure may be done, two desidearta must be had in mind.

1st. Relief of irritation from the pathologic condition.

2nd. Thorough free drainage for fecal residue that intestinal mucosa irritation be reduced to a minimum.

But after the surgeon has done his duty, after the patient has recovered from the shock of operation, one great factor in all of these cases must not be lost sight of. These cases occur in women in about 80% of cases, they are almost invariably complicated by a neurotic taint, and we know that many of them have no other causative factor than this neurosis. Remembering this, we should be most careful of the post-operative treatment for some time after the case has left the hospital. Saline laxatives and alkaline diuretics, with water freely, are most satisfactory in relieving constipation and kidney irritation. The best hygienic conditions with non-irritating surroundings are quite as essential as medication and should be insisted on, as the development of an hysteria is almost certain to prevent the accomplishment of the desired result.

(To be Continued.)

COULDN'T SEE IT.

A food faddist was lecturing to a large audience on the marvelous results to be obtained from chewing soup, or eating nut butter, or something of that kind. He was not an imposing person physically; but sweling out his chest, he slaped it thrice with his palm and cried:

"Friends, two years ago I was a wreck. Now what do you suppose brought about this great change in me?"

He paused to let his words sink in, and a voice asked: "What change?"

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
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The puerperium is that epoch of the process of gestation which follows the birth of the child and the expulsion of the placenta. Its duration is until the completion of involution, that is to say, until the uterus, pelvic organs and the whole organism have returned to the normal state. This normal state is not, however, exactly the same state in which the organism was before pregnancy began. Certain permanent changes in the woman's body, mind and soul have occurred which change her from nullipara to a multipara. The mental and psychic changes are apart from our subject, but are among the holiest things of this world. The physical changes are definite and demonstrable. The breasts during the puerperium begin and establish their normal function of lactation and never return to exactly their former condition. The abdomen becomes relaxed and never recovers its nulliparous tone. The perineum, vulva, vagina and pelvic floor have received more or less traumatism during parturition and never completely recover. The uterus always remains somewhat larger and heavier than in the virgin state and lies a little lower in the pelvis. The uterus of the multipara will weigh nearly fifty per cent more than that of the virgin. The cicatricial lines caused by the stretching of the skin during the enlargement of the abdomen will always remain. The form of the external os uteri changes, as the inevitable lacerations of the cervix heal, from the round virginal shape to the transverse mouthlike slit characteristic of the os through which has passed a large body.

Practically the first danger to guard against in the puerperium is hemorrhage. After the relief from suffering, the mental and bodily content, and the relaxation from psychic tension which comes with the attainment of maternity, hemorrhage comes as a staggering blow to patient, doctor and friends. We cannot always provide against it, but proper precautions during pregnancy, labor and the early part of the puerperium will minimize the chances of its occurrence. These precautions have been discussed in the March and May number of the Recorder in regard to pregnancy and labor.

During the hour or two while the accoucheur remains near the patient after the birth of the child he will frequently feel the uterine fundus through the abdomen and ascertain that contraction and retraction are well maintained. Should he feel the uterus at any time softening and enlarging he will massage it with sufficient vigor to cause it to contract and to become hard again. If there is any apparent tendency to undue relaxation a dose or two of ergot should be administered. The official fluid extract is the best preparation to give by mouth and there are several preparations prepared by the manufacturing druggists for subcutaneous use. Besides the prevention of actual hemorrhage the measures like these will minimize the after pains because they will prevent the formation of large clots in the uterus, the expulsion of which causes the pains. Ergot is not necessary in every case but should be given whenever the attendant is not sure of the contractibility and tonicity of the uterine muscle. Therefore after a prolonged or after a precipitate labor, after an operative labor, when the uterus has been much distended by twins, by large child or by hydramios, ergot should be given.

The diagnosis of puerperal hemorrhage is made from the actual appearance of an undue quantity of blood soaking the vulva pads. To determine

this point the doctor or the nurse should look at the vulvar region occasionally to see whether much blood is soaking through the pads. The relaxation and enlargment of the uterus are other signs of importance. The quickening and weakening pulse, the pallor of the face, the rapidity of the respirations, and the restlessness of the patient all point towards hemorrhage. Other symptoms will be thirst, air hunger, and a feelng of faintness. Such hemorrhage may come on at any time during the first twelve hours. It is most likely during the first hour and the danger diminishes with the passing of each hour. When the bleeding is from some large vessel of the cervix caused by an unusually high laceration, the bleeding will continue even when the uterine muscle is well contracted and when the uterine tumor feels hard.

Since the loss of blood may quickly become enormous when post partum hemorrhage starts, it is important not to lose much time in establishing effective treatment. If a few vigorous kneadings do not stop it one should quickly introduce his hand into the uterus and remove clots or retained secundines. With the external hand firmly seizing the uterus through the abdomen the organ will almost always contract strongly upon the internal hand. The latter hand can then be reomved from the uterine cavity and its fingers should firmly hold the lips of the cervix while the external hand continues the kneading. If enduring contraction can be maintained, as it usually can, the hemorrhage is usually thus controlled. These procedures can be performed in much less time than it takes to tell about them. Should they fail, as they will in a very small percentage of cases one must resort to tamponade of the uterus. Every obstetrician should have several yards of sterile gauze folded into a packing strip ready in a proper container in his satchel. The cervix is seized with a vulsella and brought into view just within the vulva. Under guidance of the eye and with the patient in the lithotomy posture at the edge of bed or table, the gauze is firmly packed into the uterus with a dressing forceps, beginning well up into the fundus. The packing must be firm and must use enough gauze to fill the uterus and the vagina completely and tightly. The process is very painful if effectively done. The packing is held firmly in the vagina by means of vulvar pads, a tight abdominal bandage is applied and pulled firmly down by a piece passed between the thighs which also holds snugly the vulvar pads. Many authors use and advise tamponade in practically all cases of hemorrhage even of small amount. Personally I have very seldom been forced to employ it. The manual method has very rarely failed in my hands.

Many other methods are recommended and used, but many of them are too unreliable for time to be wasted upon them. Injection of hot solutions, of vinegar or other irritating solutions are not effective in severe cases. A lump of ice passed into the uterus will usually cause contraction, but the manual method can be employed while somebody is running for the ice and is much more effective. Swabbing the inside of the uterus with a solution of ferric sulphate (Monsel's solution) stops the bleeding by coagulating the blood in the open sinuses, but leaves the uterus filled with a hard granular mass of iron slag and blood clot which acts as a foreign body and is difficult to remove. It is very dangerous because of liability to infection. The iron solution is seldom at hand as the operator's hands are. The most skillful operator will usually employ the simplest methods. In obstetrics, where one cannot always have all his paraphanalia with him, one must learn to use those things which he has always with him. The more the obstettriican trains his naked hands to do as

much of his work as possible the better equipped will he be for obstetric emergencies. I wish to amend by substituting gloved for naked in this last sentence.

Lately there has appeared a method of stopping puerperal hemorrhage by means of the tourniquet. A large rubber tube is passed around the abdomen just above the umbilicus and tightly fastened as such a tube would be about the leg for amputation. By it the abdominal aorta is constricted and of course hemorrhage from any vessels in the body below the constriction is stopped. The procedure is painful and rather difficult and is not without danger of injuring the alimentary tract or the large mesenteric vessels. It cannot safely be employed longer than an hour or two at the most. It must be recognized as a forlorn hope. Its best promise is in placenta previa while one is preparing to perform cesarean section.

When the hemorrhage comes from a high laceration of the cervix the best treatment is to suture the rent at once, under good light and with the cervix drawn down and a speculum in the vagina. The first suture must be passed ihgh enough to reach the bleeding vessel. When it is impossible to find the bleeding point it may be necessary to tampon the cervix and the vagina and apply a tight abdominal binder with a horse-shoe pad above the uterus and a firmly drawn perineal band to hold all in place.

Puerperal infection has usually already had its beginning before the end of the labor through some failure in the prophylaxis. The infection which arises during the puerperium is generally less severe than that which arises earlier. Indeed, within three or four days after labor the genital canal is always infected with saprophytic and septic microbes of various kinds, from the vulva up to the internal os. By that time, however, the organism has usually protected itself against deep extension of the infection by nature's methods of fortification and of immunity. The near presence of the anus close to the vulvar cleft and the chances of infection of the genital canal through the gaseous and other contents of the rectum make it impossible to keep the genitals aseptic more than a few days at the most. Prophylaxis against puerperial infection during the puerperium itself consists in maintaining a condition as nearly aseptic as long as possible. The patient should be furnished with clean linen and clean bedclothing. Blood and discharges must be frequently washed away from the external genitals with sterile water and sterile gauze sponges. The sterile vulvar pads must be changed whenever soaked through and at least once in four hours. This work should be performed by a nurse who wears sterile gloves. Even when it is impossible to have a nurse, it is seldom a hardship to have the person attending upon the patient wear rubber gloves while engaged in changing pads and cleaning the genitals. The gloves may be kept in a covered vessel of sterile water and may be rendered sterile by washing in alcohol and sterile water after being put on.

The post partum douche should be omitted. It can do no good and may carry upwards infectious matter from the lower parts of the genital canal. At the end of the first week the odor of decompostion from the discharges may become so offensive that it may be permitted to give a vaginal douche of sterile water, taking care not to have the stream very forcible and neither too hot nor too cold. At this period it will be reasonably safe.

Rest and quiet are essential to the woman for several days after labor. Visitors, except a few near relatives or some one or two close friends endowed with discretion, should be forbidden. It is well for the doctor to express himself forcibly about this point so that the patient's household will be sustained in

refusing to allow casual callers to see her. The patient may be allowed to assume almost any posture she pleases after labor. The bugbear of air embolism need frighten no one unless the patient makes violent movements within a few hours after delivery. She may lie on her side, on her back, on her belly or may sit up in Fowler's position as soon as she pleases. If there is difficulty in passing urine while lying down it is safer to allow her to sit up, well supported, in order to urinate than to run the risks of infecting the bladder through the passage of a catheter. She should be encouraged to rise for micturition and defecation as early as the third or fourth day, unless especial weakness or other definite contraindication exists. The time has gone by when all obsetric patients must be compelled to lie in bed for two or three weeks. Indeed there is no reason why she must stay in bed until the traditional ninth day. Let it be understood that I am writing about normal labor and the normal puerperium. If there has been an especially difficult labor, if there has been eclampsia, hemorrhage or infection then the woman may be reuired to rest in bed. The point is that she should not be compelled to remain too long in bed at enforced rest unless there is some complication which in itself is an indication for prolonged rest. There is no more danger of thrombosis when women rise within a day or two than in those who lie in bed for weeks, rather the contrary. Infection of any kind depends not in the least on the posture which the patient assumes. In fact, when there is subacute peritoneal infection of the pelvis, the dorsal posture tends to cause the puerperal uterus, retroverted as it is normally for two weeks after labor, to become adherent and to remain permanently retroverted and adherent, and hence the source of many ills in later life. Within a few days after confinement the woman should assume for a few minutes at a time the knee-chest posure several times a day. This posture relieves the pelvic floor of the weight of the contents of the abdomen and is a prophylaxis against prolapse, it also stretches out the pelvic veins and improves the return circulation from the uterus. It is a posture which the patient should be instructed to assume twice a day for several months.

(To be Continued.)

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D.
M. E., Lima, Ohio

The substance which fluoresces most brilliantly and with the best definition under the action of the Roentgen rays, so far as chemists have been able to determine, is barium platino-cyanide, freshly prepared and properly applied to the screen surface. This was the substance used for fluoroscopic tests by Roentgen in his investigations, and it has been employed by all his followers to a greater or less extent. Not only does this substance give the most brilliant fluorescence, but is is practically non-phosphorescent; i. e., when once excited it does not continue to emit light, even faintly, after the Roentgen rays have ceased to fall upon it. This quality of non-phosphorescence, it will be readily seen, is of great importance in cases where nice distinctions in detail or opacity are to be made out; for, if phosphorescence is likely to be present, it will be impossible to distinguish a faint shadow from an area which, though actually out of reach of the X-rays, may be faintly shining on account of previous excitation. For this reason surgeons need a non-phosphorescent fluoroscope.

No known substance, as has been im-

plied, exceeds barium platino-cyanide properly prepared, either in brilliancy or in the quality of non-phosphorescence; but there are certain difficulties in the way of its exclusive use for fluoroscopic screens. Its expensiveness and its tendency to easy decomposition, in common with all cyanides, are the principal drawbacks. Although both these objections have been largely overcome by the untiring labors of experimenters during the past year, so that a durable fluoroscopic screen of the platinum salt may now be obtained at a reasonable cost, there is still a demand for a less expensive screen, even at slight loss in brilliancy. Calcium tungstate is the only substance yet found to meet this requirement. The ordinary preparation of this salt gives a very brilliant fluoroscence, and on account of its low cost is much used in making screens for exhibition purposes. But for the use of surgeons a non-phosphorescent preparation, first made by T. B. Kinraide of Jamaica, has given excellent satisfaction. For a standard outfit we would recommend a small fluoroscope having a screen coated with the non-phosphorescent preparation of calcium tungstate. It is well to have the large screen detachable so that it can be easily removed for exhibition purposes.

An important accessory to the proper fluoroscopic outfit is some arrangement for cutting off the X-rays from all portions of the screen excepting the one area, small it may be, where a particular detail is to be examined. Many observers have failed to see the finer shadows that are really present on account of the general glare of the screen. This is easily remedied by employing a diaphragm of sheet brass so constructed that it may be placed in front of the fluoroscopic screen, with its opening, which may be varied in size, over the part where the examination is to be made.

Apropos of this subject we quote the following excellent article from the Medical Brief.

Sydney Tousey, in the American Journal of Physiologic Therapeutics, cites Punch's famous "Advice to a young man about to be married: "Don't," and declares that it applies most forcibly to the use of the fluoroscope. The evils thereof so far exceed its benefits that mankind would be greatly benefitted by its complete abandonment. Infinite care is required to avail ourselves of its manifold uses without danger to ourselves and our patients and the use of the fluoroscope should be a rare exception, not as a complete examination but as a momentary glance in testing the quality and intensity of the radiance from a new tube or with a new exciting apparatus; or in determining the best position of the part to be radiographed in some difficult case. The danger lies in the longer exposure for making a diagnosis. The developed plate may be studied and discussed as long as necessary but a long examination of the fluoroscopic image means injury to the patient and if frequently performed involves the greatest danger to the operator. The use of the fluoroscope for examinations and for measuring the quality and intensity of the X-ray by the appearance of the bones in the operator's hand has been the death of several famous specialists. The manufacturers who have lost their health or their lives have been those who made a practice of allowing prospective purchasers to look through their chests and other parts of their bodies in demonstrating the apparatus. One manufacturer whom the author spoke with a few months before his death from cancer caused in this way, told me that it was impossible to sell the apparatus without subjecting himself to this certain death by torture. He was not merely running a risk, for that implies some chance of escape, and in this case destruction was

a certainty. The theory was that if he told every physician who asked for such a demonstration that it was a dangerous thing, a certain number of possible purchasers might be scared off and send their X-ray work to some specialist. The manufacturers are making a great mistake. Some kind of a manikin could easily be used for fluoroscopic demonstrations and the physician would be the last person in the world to ask such a sacrifice of a fellow man if it were explained to him that while one transillumination would be safe a number of them every day would be fatal. It is like the bartender who is invited to take a drink. He can't drink with one customer without drinking with everybody and so he has to politely refuse everyone if he wants to keep sober.

NOTES ON ELECTRO-DIAGNOSIS.

By Dr. O. W. Westlind, Duluth, Minn.

Electro-diagnosis is a valuable aid in the diagnosis and prognosis of disease. Real and apparent death, genuine and feigned disease, diagnosis of different kinds of paralysis, and the presence of metalic substances in the tissues, are among the diagnostic points established by electro-diagnosis.

Electro-diagnosis is the most reliable test for establishing death. If within three to five hours after death there is no contraction of muscles following faradization, the subject is certainly dead. In new born contractility of the muscles under influence of the faradic current will continue fifty or sixty minutes after the heart has ceased to beat.

Electro-diagnosis of foreign bodies in the tissues is made by use of a probe of two spiral wires insulated from each other connected to a weak cell and meter in series, so that when the probe comes in contact with a metalic substance it forms an electric current, but the best electro-diagnosis for foreign bodies in tissues, and the one most used today is the X-ray and fluroscope.

Malingering is best diagnosed by means of faradization with the wire brush electrode which is both painful and harmless, except in cerebral trouble. If there is electric muscular contracility after two weeks, the case is one of the malingering type, except in obscure cases such as paralysis, when the test should be carefully made, and perhaps the time extended for a few days, before judgment is passed on same.

In the electro-diagsosis of paralysis both faradic and galvanic currents are used, and either may be applied in three ways, viz.,—The direct, indirect and polar. By direct method place one electrode either over the motor point or on the muscle, with the other at a distance. Indirect, place one electrode over the ganglia or nerve trunk, with the other at a distance, place both electrodes close together including between them part being tested. Unipolar one electrode over ganglia nerve, or muscle, and the other at a distance. The faradic current produces strongest contractions, but diseased nerves and muscles respond more readily to the galvanic current.

In electro-therapeutics we obtain the most decided response to the current used, when applied with one pole or electrode over the motor point of the nerve or muscle being treated, and the other electrode at a distance. A thorough knowledge of the motor points enables us to give electric treatments in a scientific manner, and thereby get the best results.

When a muscle gives a normal contraction, its relation to the spinal cord is undisturbed, even though the cord or brain is diseased, so that will power is lost over the muscle, cases of paralysis giving normal muscular reaction, usually indicate that the disease originated in the brain or white column of the cord. Paralysis giving abnormal elec-

trical reaction indicates disease of either the grey matter of the cord, or peripheral nerves, paralysis of one side (hemiplegia)is usually due to disease of the brain (paraplegia) paralysis of lower half of body generally due to spinal disease, (hemiplegia) (alternate) to disease of brain and white columns of cord, reaction in this disease being normal. Electrio-diagnosis should be thoroughly studied and applied by all practicians.

When a muscle through the effects of injury, severe enough to destroy a portion of a motor or flexed nerve, refuses to react to any form of electrical stimulation, this condition is what we term the reaction of degeneration. This condition is present in paralysis arising from rheumatism, lead palsy, and that of writers, telegraph operators, etc. and is of vital importance in cases of injury difficult to diagnose and when the injured demands compensation for damages as the symptoms would idicate serious injury to the nerve.

DEPT. OF GENITO-URINARY DISEASES

Conducted by
NELSON F. McCLINTON, M. D.
Chicago, Ill.

Haematuria for practical purposes should be divided into two classes, namely those with symptoms and those without, that is symptomless haematuria. In the former, certain symptoms may be so prominent that the diagnosis may be made in a large percentage of cases from the symptoms alone while in the symptomless class there is nothing present but the blood and the whole genito-urinary tract must be considered.

A complete history of the present condition together with past history is very necessary, likewise to learn different places of residence, having in mind various parasites and malaria that are indigenous to certain localities.

The patient should be subjected to a thorough physical examination, very often the offending cause may be so evident that for diagnostic purposes it may not be necessary, on the other hand a general examination will bring to light factors separate from the genito urinary tract, for instance a condition in lungs characteristic of tuberculosis naturally would lead one to suppose that a haematuria was from the same infection in the kidney. The condition of the heart should be ascertained as it is known that passive congestion will produce blood in the urine. Also the abdomen, pelvis and rectum should be examined as they all can have conditions that can produce haematuria.

It is presumed that blood is known to be present in the urine but one should not be satisfied without a complete examination. The presence of casts, low percentage of urea, excess of crystals, etc., will all be significant facts in making the diagnosis, for instance acute or chronic nephritis can produce haematuria and the diagnosis would be made from blood alone.

If indicated a bacteriological examination should be made.

Heretofore much stress has been laid on the value of a macroscopical or naked appearance of the urine, whether it comes in the 1st, 2nd or 3rd glass internally mixed, clotted and various other signs. With the exception of hemorrhage from the urethra the conclusions drawn from the above observations are apt to be very inaccurate and since the perfecting of the cystoscope a more accurate means is provided. It must be remembered however, that blood in misroscopical quantiti-

ties is haematuria, and if one waits for the naked eye appearance of blood, valuable time will be lost and serious conditions overlooked as for example, tuberculosis of the kidney produces microscopical and rarely macroscopical blood.

Since the introduction of the cystoscope and urethral catheters and X-ray, we now possess means of making as accurate a diagnosis and probably more so than in any other field of the body. To begin with any of the various conditions causing haemorrhage from the bladder can be observed, ulcers, stone, tumors, the effects of outside pressure, contiguity, etc.

In cases of hemorrhage from the kidney blood can be seen escaping from the urethral orifice or if no hemorrhage is observable catheterizing the ureters will generally demonstrate the affected kidney and at the same time using a functional test as pheno-thalin an idea of the secreting ability of the respective kidney is obtained.

The cystoscope is also used in conjunction with the X-ray, that is passing an impermeable catheter in cases of suspected ureteral stone, this being done to outline the position of the ureter in reference to stone as it is known that calcareous deposits in glands or phleboliths may give a shadow similar to a stone and their position with catheter as a guide serves to distinguish between them.

Regarding haemorrhage from the urethra, either the urethroscope or certain kinds of cystoscopes can be used and the cause observed, in the anterior urethra it will usually be due to ulceration or polyps, in posterior it may be due to polyps, acute or chronic posterior urethritis and the various pathological conditions of prostate and seminal vesicles. I might add that in acute inflammatory condition of the urethra it is not advisable to use any instrumentation.

THE TREATMENT OF STRICTURE OF THE MALE URETHRA.

By C. A. Bryce, A. M., M. D., Richmond, Va.

For more than thirty-five years we have been a worker and an observer in the field of urethral stricture as found in the male. We became interested at first from the fact of its apparent incurability as it was then handled and as it is now too often handled, and as a surgeon we were not at all satisfied with the results at the hands of the best operators by any method. These patients all kept coming back for relief after varying periods of time, and the same work had to be gone over and over.

This observation led us to look for something better than division, divulsion or forcible dilation—methods then in use; and we became one of the pioneers in the removal of urethral hyperplasia by electrolysis. This method had a few disciples and many bitter opponents and various were the results among its adherents from unheard of success to blank failures, so that there were those who really were enthusiastic over the theory who were doomed to bitter disappointment as they failed to realize their hopes of effecting permanent cures of stricture—and these reluctantly joined in the ranks of the opponents. But there were certain scientific, painstaking, observant and patient men who noted their failures and found the causes leading up to them, and who finally began to get brilliant and lasting results that far eclipsed any other surgical procedure along these lines. The most successful of these pioneers in this country as well as we recall were Robt. Newman, of New York, Hutchinson of Providence, St. Clair of Brooklyn and the writer.

The important point in this paper is not to emphasize the especial value of electrolysis, which in our practice has been well proven, but to review the

causes of failure in all of the methods—for there are operators, and always will be, who have no better results with the urethral electrode (or worse) than they do with the urethrotome or divulsor; and this brings us up to one of the common causes of failures in all of the methods.

For the past ten years we have been profiting by observing the results of the work of others when their patients would seek us for relief from recurring obstructions within the urethra. Most of these patients had been operated on and received great relief, but, with the same old story, came back to be "cured this time." Upon inquiry we learned that the doctor had either cut or forcibly torn apart the strictured parts, had run a bougie through a few times and sent them away with a big stream! When the electrode bougie had been followed by failure we generally got about this answer: "He burnt us pretty lively, but he got through and I thought I was all right."

Now in all of these instances we have just the conditions for insuring the continuance of stricture—viz. traumatism. We treat strictures today by all of the methods and we have most gratifying results due, as we think, to one care we always take and that is to always treat, from beginning to end, urethral inflammations, to avoid extensive traumatism and when we have induced it or find it present, to treat the patient until it is all removed; for no case of recently treated stricture by any method will be cured if we leave any trace of inflammation behind. The real lesson we wish to convey in this paper is to work gently, allay inflammation, encourage absorption and leave a healthy urethra when you discharge your patient. Now the urethral surgeon who cuts, divulses, "bursts" and bleeds will very likely get into the bladder with a sufficiently large sound, but unless he holds on to his patient and treats him for the urethral traumatism patiently and faithfully until he has a sound urethra he can guarantee him a worse stricture in a short time than the one for which he operated.

We have long ago learned that it was not wise or for the patient's ultimate good to do everything we are physically able to do when working in the urethra, consequently it takes us about three times longer to treat a stricture now than it did twenty years ago. With our present light and experience we pay as much attention to the prevention and dissipation of chronic congestion and subacute inflammation as we do to the removal of stricture proper.

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COMPETITIVE OFFICE PLAN PRIZE.

We have been awaiting the decision of the doctor to whom we referred the plans submitted. After a careful consideration of them he has concluded that, for various reasons, the plans of Dr. G. W. Siminson of Hawley, Minn., shows great ability to adaptation to conditions surrounding many practitioners and to careful attention to detail in making it possible for anyone similarly situated to copy the plans that were so carefully drawn and submitted, and that he is entitled to first place and that Dr. S. B. Montgomery, of Cynthia, Ind., comes next in rank in his estimation, with Dr. W. Stuart Leech a "good third." The plans given first prize were published in the January number and the second in November issue and the last in January, 1912. We will be pleased to start another series and award more prizes provided there are not less than three competitors. Please send in photographs of your strange and interesting cases, pathological, accidental or otherwise. —J. V. S.

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We want to be criticised as it will help us to avoid making the same mistakes the second time. J. V. S.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Janesville, Wis.

PAROTITIS.

Mumps is the third in the series of diseases that the law requires to be quarantined, which is seldom complied with and the health officers, generally speaking, neglect to enforce. In Chicago sufficient compliance with the law existed in the last three months to report 700 cases of this disease in that time. This is a highly contagious disease and it would seem that if people only knew that the disease is preventable and that it is wholly unnecessary for anyone to have it, if they are kept protected from the contagion, that they would insist on having the same protection that they demand from other diseases. Aside from the discomfort that an uncomplicated attack brings to the little patient in the household and to those who care for them, it always reduces the reserve and disease-resisting power of the sick one and due to its intimate relation to the general glandular system of the body makes a good culture ground for the introduction of other and more dangerous diseases of the glands.

It is often the first of very serious involvements of this kind, including tubercular conditions, because of the lessened resistance to the attacks of the bacilli of that disease, that we know to be present almost everywhere. The older members of the family may contract the disease and suffer much loss of time, especially if they ignore proper care of themselves and to avoid any intercurrent diseases that may favor the metastatic transference of the disease to other and more sensitive and important glands, than is the parotid. The location of this gland and the ease with which other bacilli can gain access to it, during this stage of inflammation, through both the food taken and the inspired air, should attract our serious and careful attention.

Among the complications that may occur are orchitis, mastitis, ovaritis, vulvo-vaginitis, convulsions, meningitis, facial paralysis, hemiplegia, peripheral neuritis, endocarditis, arthritis, albuminuria, nephritis, optic atrophy and many others, including suppuration of the gland. Parotitis sometimes follows abdominal operations.

Why should we be careless and permit the children, who cannot protect themselves, to contract this or any other disease that can be avoided? Care should be particularly taken at times of the year in which people are most likely to change their places of abode, to ascertain if possible, by careful inquiry, whether any cases of these contagious diseases have been living in the rooms or houses, where it is proposed to remove to, and if they have been properly fumigated since them. In fact it is far safer to have them thoroughly fumigated anyway, even if at our own expense.

In most of the states there is a fine of from $10 to $100 for not reporting cases of mumps and these other diseases which applies to those having the care of a case as well as to the attending physician, if one is employed. Again we say it is economy to employ the doctor in all cases of sickness and follow his advice and obey his directions. The symptoms make their appearance after a prodromal stage of from three to twenty-one days, average fifteen days. A swelling appears at the angle of the jaw directly under the ear, extending forward, backward and downward till th lobe of the ear is about the center of the swelling. Maximum reachd in 2 or 3 days. Temperature 101 to 104 F. Phytolacca is the remedy to use internally and externally and aconite can be given. Each of these remedies should be used in ⅛ to ¼ of a drop doses every 1 to 3 hours

as may be needed and the photolacca externally 3 or 4 times a day. See March, 1912, Recorder, page 102. Heat or cold can be applied to swelling too. Be watchful for complications and during convalescence, give proper attention to diet and the emunctories and meet indications.

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ANTITOXIN IN PREGNANCY.

On October 31, 1911, we had in the family of J. R., a pregnant mother and three daughters ill with diphtheria. We injected antitoxin (Mulford), in the cases of P. R., age 2 years, laryngeal type (4,000 units) and C. R., age 8 years

laryngeal, nasal, post pharyngeal type (4,000 units), but it was put off too late and both died the same day the antitoxin was used. We injected antitoxin (Mulford) in the case of R. R., age 13 years (pharyngeal type, 3,000 units and Mrs. J. R., pregnant over 8 months (tonsilitis type) 3,000 units both of whom recovered.

The photograph is the baby born to this mother Nov. 28, 1912, having been normal in every respect from birth to this writing. Weight at birth, 12 pounds and at 3 months, 19 pounds. Breast-fed. My only excuse for sending this in is that I had never had the experience of using antitoxin in a late case of pregnancy nor had I heard of its being used. Trusting it may be of some interest to the profession and that the Recorder may continue its well earned success, I am,

Yours truly,

Dr. Hill.

Note—Have any others had similar experiences? —J. V. S.

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HEPATIC ABSCESS.

By G. L. Wolfe, M. D., Cedar Falls, Ia.

A circumscribed collection of pus within the substance of the liver is comparatively rare.. Usually single. there may be two or more separate abscesses which vary in size from a few lines in diameter, to enormous cavaties holding a gallon or more of pus. They may be deep or superficial, and while no portion of the liver substance is exempt, the most frequent location is in the deeper portions of the right lobe.

Causes.—Contusions, Lacerations, penetrating wounds, and the lodgement of foreign bodies are among the traumatic causes of suppurative inflamation of the liver. Laceration of the capsule along the attached portion of the suspensory and coronary ligaments, not only leads to perihepatic abscess, but may induce suppuration in the deeper portions of this organ.

Foreign bodies causing hepatic abscess not only enter through the integument, but injested substances as bones, needles, &c., have been known to pass from the alimenttary canal into the liver, producing circumscribed inflamation and suppuration. Abscess of the liver may also occur secondary to an inflamatory process in any of the

abdominal organs, the blood from which is returned by the portal vein.

Lastly, it may occur in the course of acute hepatitis, where neither injury nor metastisis has occurred. As this disease is almost altogether confined to tropical climates, it will be understood why hepatic abscess is so much more frequent there than in the colder zones.

Symtoms and Diagnosis.—The early recognition of hepatic abscess is exceedingly difficult; especially when the deeper portions of the organ are envolved. Pain is not a prominent symtom unless there exists a perihepatitis in which case it is exaggerated.

There is a sense of heaviness or fullness about the liver; exacerbations of temperature occur with general impairment of health. Jaundice is not present unless the bile-duct is compressed by the tumor. Cancer of the liver develops slowly, has a history of progressive emaciation, occurs usually after forty years of age and nodular to the feeling.

Empyemia may be mistaken for abscess of the liver, especially when the accumulation is considerable and liver is displaced downward. It may be recognized by the interference with the expansion of the lung of the affected sides, and by the change in the percussion sounds with the change in position of the thorax in which the fluid of empyemia is displaced.

Over-distension of the gall-bladder may be mistaken for abscess, but this error may be eliminated by bearing in mind its location in front and low down, where abscess is exceedingly rare; and also by observing that a distended gall-bladder is appreciably movable independently of the liver.

Hydatid cyst of the liver is not painful, and is not accompanied with exacerbations of temperature, with exception of very rare occurrence of inflammation of the cyst when a differentiation is practically impossible without aspiration and examination of the fluid, where the accumulation of pus is considerable the tumefaction may be recognized by palpiation and the diagnosis made positive by the exploring needle. The prognosis is unfavorable. Left alone a fatal termination occurs in almost all cases by rupture into the peritoneum in about thirty per cent and into the lungs about twenty-five per cent while in a smaller proportion of cases the abscess opens through the integument.

Treatment.—Evacuation is the only rational treatment; in the choice of methods the character of the abscess will determine the employment of the aspirator or drainage by incesion. Aspiration is advisable when the abscess is deeply located, and especially so when strong inflammatory adhesions have been formed between the wall, of the abscess and the abdominal or thoracic parietes.

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A little girl was having her first ride on a big steamboat, crossing the Atlantic. The captain was explaining numerous things to her, among them his telescope.

"Now, what would you like to see through it?" he asked pleasantly.

"Id' like to see the equator."

The captain pulled a hair out of his head and holding it before the telescope; bade the little girl look. "Do you see?"

"O, yes," she said, "and there's a camel walking across it."

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She—"This is the first Thanksgiving dinner I ever cooked for you, isn't it dear? We have a lot to be thankful for."

He—"I can tell better after I have finished the dinner."

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.,
Janesville, Wis.

EYE CASES.

At a recent meeting of the Midland Ophthalmological Society, England, N. C. Ridley, described some interesting cases, which are reported in the Birmingham Medical Review.

Arterio-venous aneurism of the orbit. —A woman aged 49. Came first on January 1, 1907, with all the typical signs of arterio-venous aneurism of the right orbit.

Much distress from pulsation and noise in the head. No history of injury. Proptosis increased, and on January 4, 1907, right common carotid was ligatured. Distress was relieved permanently, proptosis did not increase, but pulsation and thrill returned afterwards. Iodide of potassium was administered.

In May, 1908, cornea began to become inflamed, owing to exposure; vision not much reduced before this. Edges of lids made raw and sutured together, and pressure applied. Keratitis improved, and in about six months the lids were opened again.

In May, 1909, the facial artery, near its entry into the orbit at the inner side, was noticed to be dilated to the size of a finger, with visible pulsation. Facial artery ligatured at edge of lower jaw, October 6th, 1909. Five days later, when patient had returned home, she was seized with acute pain, redness, and oedema of orbit and parts around. Aspirin given, and patient kept very quiet in bed.

In a few days all had subsided, and it was found that there was no pulsation in the tumour. A solid mass could be felt. Shrinking occurred, and the eye returned to its normal position. There is almost total paralysis of all the external muscles of the globe, and a dense leucoma of the lower part of the cornea. Only partial ptosis, and there is some vision. There is no pain nor distress.

Evidently a thrombus began at the ligature of the facial, and extended upwards into the sac, and affected a cure. This might ont have occurred had not the facial artery been diseased and distended.

Eyelash in anterior chamber.—A man aged 37, on October 27th, 1911, when hedge-cutting, was struck in the right eye with a thorn. Admitted to Leicester Infirmary ten days later with a punctured wound upwards and downwards, 3 mm. from the corneoscleral junction. Much swelling; iritis and traumatic cataract.

Under treatment acute symptoms subsided, and a hairlike body could be seen in the anterior chamber, one end resting on the center of the lens and the other in front of the iris, upwards and somewhat inwards.

February 7, 1912, lens extracted with iridectomy. Eyelash removed from anterior chamber with iris forceps immediately after corneal section.

Severe injury of globe with retained vision.—A man aged 35. In summer of 1902, when at work in a coal pit, was struck in the left eye with a stone. Admitted to Leicester Infirmary with a ¾-in. jagged, irregular wound of ciliary region at inner and lower part. Vitreous exuding and ciliary body prolapsed. Prolapsed part removed with scissors and conjunctiva stitched over wound. All healed well.

Now, nearly ten years later media are transparent; fundus looks normal. Vision with correction (2.5 astigma-

tism) equals 6-6.

Glioma of Retina.—A boy aged 3½ years. Mother first noticed something wrong with left eye seven weeks ago. Brought to Leicester Infirmary four weeks ago. White rounded "cumulus" shaped mass projecting into vitreous from inner side, and fluffy white broken-up mass from outer side. No pain nor disturbance.

No family history bearing on the case. Diagnosis, glioma.

Retinitis pigmentosa.—A man aged 45. Old standing case of retinitis pigmentosa. After twelve subconjunctival injections of mercuric cyanide in each eye the vision has improved in one eye from 6-60 to 6-18, partly in the other from 6-60 to 6-24.

Sarcoma of choroid.—A man aged 51. Neoplasm in right eye, diagnosed in December, 1901, and enucleation advised. Patient went elsewhere, and was treated for twelve months, after which the eye was enucleated. Presented himself again in October, 1910, with a black mass sprouting from the center of orbit. Orbit cleared out and lids used to line cavity.

Now, after sixteen months, there is no sign of recurrence, and the orbit is lined with skin, except for a small horizontal crack far back in the floor.

UNIQUE VISION.

A case of unique vision in which the individual was able to read the page of an ordinary book at a glance is reported by G. M. Gould, (Journal A. M. A. July 6). The ability began to show itself in middle life, becoming more perfect as age advanced. The mental functions were unsually developed. The man was exceptionally learned, his memory almost faultless. The case is explained by Guild as follows: Sometime during the middle years of the individual's life the macular region of the retina of the right eye was destroyed by chorioiditis due to eyestrain. The fixing part of the retina was obliterated. The left eye was not diseased and continued the perfection of macular or central vision. By long, unconscious and forced exercise the healthy zone of the right retina was educated to such a degree as to be able to receive and transmit to the brain the image of the entire page except that part falling on the destroyed central portion. This was naturally supplied in perfection by the macular region of the left eye. The central visular center thus received the entire photograph of the object seen made complete by the complementing action of the two eyes. He goes at length into this explanation and says it seems impossible to him that, with retained macular function of both eyes, such a marvelous extension of synchronous peripheral vision could be acquired.

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A woman in one of the wards in the Rhode Island hospital was informed she had appendicitis and would have to be operated on at once. Much frightened, she reluctantly consented and was conveyed to the operating room.

One of the doctors had commenced to administer the ether and her eyes were closing languidly, when he discovered he had forgotten to inquire if she had false teeth. He quickly removed the rubber cap, and shaking her slightly he said: "Have you anything loose in your mouth?

Then, as he made a move to put his hand in her mouth, she opened her eyes wildly and exclaimed:

"Nothing but my tongue, doctor, and for God's sake don't cut that out, too!"—Mack's National Monthly.

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H. C. Bennett, M. D., M. E., Lima, Ohio.—Your lessons in electro-therapentics have much surprised me in their scope. They are certainly multum in parvo. Charles T. Sisk, Andrews, N. C.

MISCELLANEOUS

THE RECENT GRADUATE.

By George L. Servoss, M. D., Gardnersville, Nevada.

Every year one of we older heads has more or less to say to the fledgling in medicine. Most of the advice offered is of a moral character, and while it is proper that such should be administered, it frequently occurs that such is not as helpful as it might be to the youngster. Of course it goes without saying that the young doctor should behave in a seemly manner, but in a considerable percentage of cases he will do so without being so advised.

There are numerous other things which bring success, other than behavior. Being well grounded in the knowledge of mankind and his peculiarities is of vast importance, as it is an intimate association with man which follows, providing the recent graduate meets with success. Not only is this true, but the youngster should likewise have an intimate knowledge of the tools of his trade. Time was when the ability to diagnose a condition was considered of the greatest importance, but today we find that both the young man and the old, if he would be successful, must know how to treat the condition under observation. In other words he must show a goodly percentage of happy terminations, else he will fail.

Diagnosis is still of paramount importance and should be studied very closely. The young man should be equipped so that he may go into the most minute details, relative to the condition of his patient. He should either have a laboratory, or be in close touch with one, sufficiently equipped to make every possible experiment. He should have a reliable microscope, a bacteriologic outfit, and a blood counting apparatus, in that he may determine fully, the exact condition of his patient, and if the latter be the host of pathogenic organisms. A blood pressure apparatus is likewise of vast importance, as the condition of the heart action is taken into consideration frequently in the making of a diagnosis. In fact, the doctor must be equipped to make both chemical and physiologic tests of all sorts, if he would keep down to date in his practice.

Not only are the tests mentioned above of value in the perfection of diagnosis, but in addition it has been found that they frequently direct to the doctor the proper line of treatment to employ, as well as to how long such treatment should be continued. The day has arrived when the matter of guess work, either in diagnosis or treatment is practically done away with. It was formerly the habit of the doctor to take into consideration only the subjective and objective symptoms, basing his diagnosis and line of treatment upon these alone. Today, while these symptoms are considered to a great extent, their value is not given the same consideration as was formerly the case.

Not only has the laboratory great value in the perfection of diagnosis and the direction of treatment, but in addition it becomes of economic value in connection with the latter. When the subjective and objective symptoms alone controlled the matter of treatment it frequently occurred that remedies, other than those indicated, were administered and that all remedies were liable to be exhibited over too long a period. In other words, much medicine was wasted. The laboratory tests, taken daily while patient is under observation, tell the doctor what remedies to give, and what not to exhibit, and in addition advise him when the normal is reached and when the remedies are no longer necessary. This not only saves the patient a considerable amount of money expended in drug

bills, but frequently lowers the number of visits made by the doctor. Knowing absolutely what condition he has to deal with, the doctor is able, in a considerable number of cases, to institute treatment which will bring the patient back to the normal within a very short time. In these strenuous times, when time is money, the doctor who most quickly places his patient on his feet and ready for the fight for existence is the most successful in every way. He does not make as many calls upon the single patitnt, but has more patients and so more than balances accounts.

Of course there are so-called chronic cases encountered daily, and in times past it was the routine of the older physicians to make such cases last as long as possible. In fact it was these cases which gave the doctor his profits, in nuemrous instances, his livelihood. Today, it behooves us to bring about a cure as rapidly as possible in cases of this character. The laboratory is of vast assistance in cases of this sort and not infrequently does it show that the diagnoses made in times past have been erroneous, absolutely. At this time there is no excuse for the chronic rheumatic going on from month to month and year to year without relief. There are ways and means whereby he may be cured promptly and effectually. In every chronic case the doctor should suspect autotoxemia, or auto-intoxication and if he makes the proper laboratory tests he will find that his suspicions will be substantiated. With this knowledge attained, the matter of treatment becomes one of comparative ease. Not infrequently do we find, in chronic conditions, that toxemia plays the most important part in such chronicity. I have demonstrated this in a practical manner in case after case, and in which numerous diagnoses of other conditions had been made from the subjective or objective symptoms. Such a demonstration enabled me to institute such treatment as would absolutely remove the cause of the ailment and bring about a happy termination.

Not only should the recent graduate be careful in his examination of patients, thereby establishing a perfect diagnosis and giving himself an idea of what treatment it should be employed, but in addition he should look well to the condition of the drugs, or other agents employed in the treatment of diseases, or other conditions, encountered. In the earlier days but little attention was given to the purity of drugs. In fact, our forefathers not infrequently gathered their drugs from the field and made extemporaneous preparations therefrom. In some instances such products acted well, while in others they seemed inert. Later it was found that all plants, or the vast majority of them, depended upon some one or more principles contained therein for their activity. With the recognition of this fact, the matter of standardization became one of routine and no drug was acceptable unless it was known that it really contained such principle, or principles, in exact proportion. With the discovery of the active constituents of the plant drugs efforts were made to segregate the active portions of the drug from those which were inert, and in a large measure, this has been accomplished, and today we find such agents offered in their simplest forms, and manufactured in such manner as to render them unchangeable.

Many of the drug plants contained many constituents, other than those which were therapeutically active, and in many instances it was found that these bodies interfered markedly with the activity of the whole plant products. Wtih the segregation of the active principles and their reduction to their simplest form this fault was overcome. Not only was the matter of inhibition overcome, but it was found that the simpler forms of the active drug constituents gave relatively better

and surer results than was the case when the whole plant products were employed. Consequently it behooves the recent graduate to give the study of the simple active principles more than passing consideration. In fact, he should study them closely.

The subject of dosage is one of importance. In times past it has been routine to employ drugs in sufficient quantity to obtain the physiologic effect with each dose, the doses being given at comparatively long intervals. It was necessary that the interval be long, else disastrous results might follow from overdosage. In this mode of dosage, much of the drug effect was lost, due to the length of the interval. With the isolation of the active principles a new method of dosage was introduced. Instead of giving full physiologic doses, at considerable intervals, it was found that minimum individual doses, at frequent intervals, gave the therapeutic effect and that the latter could be sustained without submitting the patient to any possible danger of overdosage. By endeavoring to obtain the therapeutic, rather than the physiologic effect, it was discovered that many diseases were either aborted, or abated, and that the patient arrived at convalescence in better condition than when over drugged as under the old method of drug administration. Simply drug enough, and no more plays an important part in the treatment of disease at present and the young man in medicine must recognize this fact, if he would be successful. Here again do we find the laboratory of vast importance, as it directs the use of these active drug constituents.

While the recent graduate will probably have some minor surgical cases, he will probably not be called upon to care for anything of any magnitude, and while he should be in possession of a working knowledge of surgical diseases and the operations for their relief he should give more attention to internal medicine for several years succeeding his entrance into practice. This will give him a thorough knowledge and a more thorough acquaintance with the individual than will surgical cases. It is very noticeable that the successful surgeons have, in years past, been successful internists for a number of years. The young man who attempts major surgery in the earlier days of his practice fails to note many individual peculiarities and because if this makes many errors, which would not be the case, were he possessed of a thorough knowledge of internal medicine and its application. Although the surgeon brings relief through operative procedure, there is rarely a case in which he does not employ more or less internal medicine. If his patient is anemic and not in condition for surgical interference, he must not only recognize such fact, but know how to correct the condition. There are a hundred and one things, all of a medical nature, which the surgeon encounters in his practice, and if he is not well grounded in internal medicine and its application, he does not become a successful surgeon, as he does not obtain results from operative interference, as would be the case if he combined medicine with surgery. The recent graduate, therefore, should not enter the ranks of the surgeons, either general or special, until he knows medicine from a practical experience reaching over a considerable number of years.

The most important thing for the recent graduate to learn is this, that it is the patient and not the disease, which comes to him for treatment, and, that, despite correct diagnosis, he cannot treat all cases of the same disease in absolutely the same manner, owing to individual peculiarities of different patients. He should know his patient, the condition under observation and the remedies which will bring about the normal. If he knows these thoroughly, he will succeed.

THE SURGICAL USES OF IODINE.

By Claude P. Fordyce, A. B., B. Sc., M. D., Manley, Nebraska.

The curent interest which has been manifested in regard to the use of iodine as an antiseptic is merely a renewed appreciation of an old and well known remedy.

Formerly in surgical practice the virtues of iodine in the form of compounds with other drugs were known. The host of official and non-official powders of high iodine content attests to the singular importance theoretically of the action of this drug. The renewed interest is due more than to anything else to the recent researches which have demonstrated beyond doubt the fact, that contrary to common belief, iodine compounds do not liberate their high iodine content as pure iodine and that for a certain germicidal effect free iodine must be available. So we have come to use iodine mixtures.

Locally iodine is somewhat astringent, drying and puckering to the tissues to which it is applied. It is essentially an irritant which destroys the cell combining with its protein constituents and provoking a reactive inflammation on the part of the tissues less violently affected. It is destructive to tissues of low vitality and stimulates healthy tisues to regenerative activities. The hyperemia induced by such stimulation plays a very similar part to the hyperemia induced by the method of Beir in the treatment of inflammation and infection. Iodine stimulates phagocytosis which, as is well known, materially combats infection.

On mucous membranes the action of iodine is quite superficial. When applied to the gums for instance its destructive action is so little that it is one of the best applications for gingivitis.

To demonstrate the deep penetration of iodine Grossich put sections of iodine treated skin under the microscope and the brownish stain permeated the various layers to a great extent, this being due to the high osmotic power of the iodine as well as that of its diluent alcohol, the former at the same time uniting with the fatty acids of the skin. He also found that skin, which had previously been washed with soap and water and not thoroughly dried before the iodine application, was not deeply penetrated.

Bacteriological experiments have given the greatest impetus to the surgical use of iodine. A 2% solution in alcohol killed the streptococcus pyogenes in two minutes and we cannot be but impressed by the rapid action of the drug upon the most dangerous microorganism with which the surgeon has to deal. Further a 1:500% solution was found to do in five minutes what it takes a 1:1000% solution of bichloride of mercury to do in one half hour. Again Mellere proved that a liter of spring water can be sterilized in a few minutes by the addition of m 4 of the tincture of iodine.

According to Senn the value of iodine as a local remedy in surgery depends on two properties of the drug: (1) It is a powerful tissue stimulant. (2) It is one of the most potent, least harmful and most reliable of known antiseptics.

In regard to the preparation of iodine to use we must keep in mind that free iodine should be available and such cannot be satisfactorily secured from iodine compounds. The alcoholic tincture was used in the earlier experiments and with success. Later it was found that the addition of potassium iodide enhanced its penetration and stability. Hence the preparation of choice is the socalled liquor iodi compositus or Lugol's solution which contains the proportion of ingredients as follows:

Lugol's Solution.

℞

Iodine .....Gm. 5
Potassium Iodide .....Gm. 10
In water .....Gm. 100

One half of one per cent Lugol's solution is a germicidal agent of marked potency and a .16 to .2% solution is strong enough as an antiseptic.

The method of use is simple: the skin must be dry. If shaving is desired it should be done dry or sufficiently early to allow the epidermis to dry. In emergency work an iodine treated unshaven operative field is antiseptic.

To prepare an area for operative work paint, two hours before the operation, with a 2% solution of Lugol's. For added security this painting may be repeated one hour later. Some operators wash the skin and dry with alcohol or ether in the usual way and then apply iodine while the patient is being anesthetized.

The diluted solution, say 3 1 of tincture of iodine to 1 liter of boiled water (0.0007) is efficacious as an irrigating fluid in all inflammatory and abscess cavities and on mucous surfaces as in conjunctivits, acute gonorrhoel urethritis, amygdalitis, etc. Sterilized gauze dressings may be soaked in a ½ of 1% solution and dried.

A precaution in regard to the use of iodine is necessary. Do not pour the tincture into a dish before using for the alcohol evaporates rapidly and the concentration of the iodine is capable of producing a burn. Again, do not allow two cutaneous surfaces painted with iodine to come into contact with one another.

The disadvantages in the use of iodine on the tissues are: (1) The stain. This may be removed with any of the following agents: aqua ammonia, hyposulphate of soda which uniting with the iodine produces sodium iodide and tetrathionate which are soluble, raw starch and ether. Woodbury recommends that where long periods of operation are expected the hands be dipped in iodine solution and immediately decolorized with ammonia, then the sterile rubber gloves put on and these dipped in iodine.

(2) Irritation. This may be corrected by proper dilution.

(3) Iodine tarnishes instruments if used repeatedly. It is best not to sterilize metal in this way but by boiling or immersion in Phenol.

When one considers that the dangers of systemic poisoning from iodine are much less than from the use of the aseptics now generally preferred—phenol and bichoride—its superiority as an antiseptic would apear to be established.

The advantages held for the iodine method over the use of the common antiseptics are:

(1) Iodine does not coagulate albumen but stimulates the tissues to repair.

(2) It accelerates phagocytosis.

(3) It is safe: being ¼ as toxic as bichloride—the acknowledged leader of all other antiseptics.

(4) Efficiently renders bacteria hors de combat.

5) It is easily prepared, stable and requires no shaving of the operative field.

(6) It is cheap and its ease of application saves preparatory materials, dressing and the labor of assistants.

(7) It is the great emergency assistant. This is important especially in military surgery and Maj. Woodbury of the U. S. Army Medical Corps highly approves its use.

We can cite no better recommendation of the surgical advantages of iodine than from Bajardi's clinic where in 700 aseptic operations healing was by primary intention without exception and there was no dermatitis in any instance.

In iodine, used in proper dilution for

the surgical task at hand we realize a step nearer the long desired ideal germicide and antiseptic.

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PHYSIOLOGY OF MARRIAGE.

By D. L. Field, M. D., Jeffersonville, Ind.

Speaking of the social aspect of matrimony, I live in a neighborhood where three country girls became wives of city business men. One married a real estate and insurance agent; one a druggist; and one a shoe merchant. These wives live in beautiful homes, where everything testifies of model housekeeping; and their husbands made no mistake; as all of them are domestic, and know how to do everything to make their homes attractive, bright and pleasant. They know nothing of the frivolities of fashionable society, and know nothing of extravagance. Their husbands have prospered and have elegant homes, because they got real helpmeets. Every woman in my nighborhood is a good housewife; economical, and domestic.

Of the doctors, two of us married capable, country girls; two married school teachers; and the others have good wives. Some men make poor selections of wives. Ihad an uncle, Col. A. P. Field, an emient lawyer of New Orleans, and was once a congressman, as well as attorney general of Louisiana; but with all his talents, he had no judgment when it came to selecting a wife. He married three times, and in each instance he made deplorable mistakes; as his wives were extravagant, because they had always handled plethoric pocket books, and had never been taught to be anything but house orraments. They were nice women, but didn't know how, nor would they do much of anything. He had to keep a retinue of man-servants and maid-servants. That kind of wives is not desirable, even for a man of means.

But to consider the kind of wives doctors should have, is very important. She should be very discreet; reveal nothing of her husband's business; eschew gossip; be sociable, not familiar; don't have select coteries of friends; but try to be friendly with everybody. She should never give a "blowout" to an especially invited company; as by so doing she is almost sure to slight some who may be the doctor's patrons. Better to never give an entertainment, except to the relatives. Public receptions, where everyone is welcomed, might be a good stroke of policy, but still it might be construed as a means to push the doctor's business, and might be criticised by his professional colleagues and their wives. It would be far better to refrain from public entertainment, and private functions at her own home. In a sense, like the minister's wife, a doctor's wife is very prominently in the lime-light; and she can't be too prudent in her intercourse with the public. Above all things, a wife must not blow her husband's horn. He shouldn't blow it himself; although some doctors do so.

Speaking about girls from the country, i. e. farmers daughters,—they are glorious young women, and make glorious wives. I don't mean to boost them to the disparagement of good young women from the cities; but only mean to say that they are the industrious, economical and self reliant class. In these days of books and daily newspapers—thanks to rural delivery—the country maids are as well informed as the city folk. It is no longer the "green country lass." Some of the most solid men prefer wives from those who have had good training at home, rather than at a female seminary. Many girls are discouraged because they are not sent to boarding schools, but men of superior minds and knowledge of the world, would rather have for wives women well, and properly educated at home. This education which will fit a woman

for any man's wife, can be had at home if the desire is not wanting. The writer married a beautiful, refined, and intellectual girl, whose parents were well-to-do; and her father was a Scotch-Irish gentlemen; educated in private schools and like her father, is a staunch Calvinistic Presbyterian. She is thoroughly domestic in her tastes; although she is prominent in the Current Events Club, and Historical Society, which she takes interest in because they keep abreast with all events of interest the world over. Such an interest doesn't militate against her home and church duties. Such a woman is a good doctor's wife.

The "country" girls are the hope of the country, as society is now tending. The women in towns are becoming unhealthy, and are so given to frivolities and extravagance, from keeping up with the fashions, that men are almost in despair of getting wives who are not invalids; in fact, it is not fashionable among city belles to be healthy. When a man has a fortune, he can't even start in married life with such a wife. While the city girls have many advantages and can become very intelligent; yet country girls of intelligence and character, will get the best men. Women of force of character are destined to take a prominent part in affairs, social, moral, intellectual, and political, in the near future; and these pampered, aimless, fashion-crazy women will not be in it. What the country needs is women with freshness, simplicity and earnestness. Then they should be good Christians, good wives and good mothers. Such women will do for doctors, lawyers, merchants, ministers and politicians, as wives.

The great Dr. Chapman said of his wife: "She made my home the pleasantest place on earth to me." Another said of his home: "My domestic enjoyments are as near perfect as human conditions permit." Such testimony is very different from that of the man who killed his wife; and on the gallows said: "I didn't intend to kill my wife; but she was such an aggravating woman."

The world is full of people who cannot imagine why they do not prosper like their neighbors; when the real obstacle is their own extravagance, and heedless ostentation. The young mechanic, or clerk, marries; hires a house, which he proceeds to furnish twice as expensively as he can afford; and then his wife, instead of taking hold and helping earn a living by doing her own work, must have a servant to help spend her limited means. The years after, you will probably find him struggling over a double load of debts, and children. He wonders why luck is against him, while his friends regret to see him in such straits; but never proffer a helping hand to such a bad manager. Had they from the first, used some sense and divested themselves of foolish pride, they would not have been so unlucky. Through every class of society this foolish pride is the rule. The Germans, however, are peculiarly free from it. The majority of young men of this generation are wasteful, extravagant and pleasure mad. They are not worth "shucks." They are given to pleasure and fine clothes. With them, mental improvement, and reading books, are consideerd a bore. If a young man has a genius for money spending whether he earns a dollar a day or a dollar a minute, he will be a poor man to his grave. A girl should give such fellows a wide berth.

I just read in our evening paper that a young woman, twenty-four years old, is going to marry a wealthy widower, eighty-one years old. The paper states that they had been lovers for some time. The idea. Such a union is unnatural; a violation of physiologic law; in bad taste; will occasion criticism, and it is an awkward thing to see a young wife going about, arm in arm, with an octogenarian,—puzzling peo-

ple as to whether her escort is her father, or grandfather. It cannot be congenial. She must have the buoyancy of youth and he the habits and feelings of age.

This city, Jeffersonville, Ind., for its size is the greatest "Gretna Green" in the United States. Just think of it,—one magistrate announces that he officiated in over one hundred marriages this month, December. The Clerk of the County Court reports that he issued over 2000 marriage licenses this year, 1911, and that over 1500 of them were to eloping couples from Kentucky. Many of the marriages are among mere chance acquaintances. It is common to see these couples where old men marry comparatively young women and oldish women, marrying almost beardless boys. It is a shame and a disgrace. One magistrate performed the unique feat of marrying three couples with one ceremony, i. e. all at one time. He just asked them if they individually and severally, promised, etc., etc. They marry here, and it is not a great while till they are divorcel by the courts of Kentucky. They have no regard for sacred, physical, moral, or physiological conditions. I have seen the eloping couples where the prospective bridegroom was very much intoxiicated; yet some innocent, blushing maiden would consent to marry such a beast. It is only a union of two fools after all. In these hasty marriage of 1500 elopers, there is no telling how many diseased persons there are united and what fearful consequences may be entailed upon offspring.

I will close these articles by observing that everybody should know what the laws of health are, and should know a great deal about anatomy and physiology. If such knowledge were better understood, there would not be so much use for physicians.

SCIENTIFIC MARRIAGES URGED AS WAY OF IMPROVING THE HUMAN FAMILY.

Washington, Dec. 29.—The classification of all the peoples of the world in a great international census, giving each person a number in a single world series, to the end that the human race may by improved by scientific marriage was the plan advocated tonight by Assistant Secretary of Agriculture, W. M. Hays, in an address before the American Breeders' Association, one of the organizations making up the American Association for the Advancement of Science.

As a means of improving the heredity of the human family Mr. Hays proposed a classification of all human beings, both as to mental aptitude and genetic efficiency. Based on such knowledge as this census would give, he said, would develop a "racial religion," requiring the genetically efficient to produce families larger than the average, and those less efficient to produce families smaller than the average.

The world numbers, said Mr. Hays, would serve to join genealogies into one numerical system so that all relationships could be traced. Each person would have a number or percentage that could be averaged so as to give the genetic or family values of each person.

"Modern science and charity work is against the law of the survival of the fittest," he declared, "By keeping alive many persons who inherit weaknesses, such as feeble-mindedness or insanity. By paying attention to genetic efficiency a race may make itself stronger for the economic contests among the races of the world.

"The proposed plan would somewhat divide people into classes, but the classification would be beneficent because it would be based on racial efficiency. The wholesome consideration of gen-

etic facts will lead to less of divorce, greater temperance and better morals. raising the average efficiency of the human race probably would also increase the number of geniuses and leaders."

PROCTITIS.

By Charles J. Drueck, M. D., 438 E. Forty-Sixth Street, Chicago.

Proctitis or inflammation of the rectum is quite commonly met with in general practice, and requires careful diagnosis and prompt treatment. Several different varieties are distinguished, although the symptoms in general are much the same in all and the case frequently terminates in fistula

Proctitis is commonly divided into acute and chronic varieties, each of which has several forms, according to etiology or development. Thus the acute consists of the catarrhal, dysenteric, diphtheria and gonorrheal; the chronic, of the catarrhal, syphilitic, tubercular, papillomatous and stenosing.

The catarrhal acute form of proctitis is due to intestinal disturbances and occurs chiefly in chillren, although occasionally found in adults. Usually the mucous membrane alone is involved, being congested, even tumified at times, and the epithelial layer may be shed off during the engorgement. In dysenteric proctitis, the whole colon is freqeuntly involved, especially in the tropical variety. The rectum, like any other mucous membrane, is liable to the invasion of diphtheria, but infection is rare. Gonorrheal proctitis is commonly found in women on account of the close proximity of the vulva and rectum and is usually the result of uncleanliness, sodomy or abscess of Bartholin's gland that has ruptured into the rectum.

The catarrhal chronic proctitis may result from repeated attacks of the acute or may begin as a deeper and chronic inflammation. Constant reinfection and irritation together with a sluggish venous flow tend to prolong any inflammation in the rectum. In aggravated cases, the surface is granular with multiple ulcerating points. Hypertrophy of the glands occurs, causing papillomatus proctitis). When the inflammation extends deeper than the mucous membrane and involves the areolar and muscular tissues around the rectum, a constriction results later, from the contraction, and we have a stenosing proctitis.

In adults, proctitis may result from fecal impaction in the rectal pouch, exposure to colds as sitting on a cold or wet seat, foreign bodies in the rectum, hard substances in the fecal mass, as fish bones, pins, hulls of cereals; injury from the tip of the syringe, strong purgatives or arsenic, bichloride of mercury, irritating suppositories, the extention of inflammation or colitis, or the irritating discharges from the bowel above. Esmarch reports a case of proctitis as a symptom of gout, the rectal inflammation alternating with other symptoms. Proctitis may also result as an extention of inflammation from hemorrhoids, prolapse or eczema about the anus. Both acute and chronic proctitis may result from inflammation of neighboring organs, as the bladder, prostate, vagina or uterus.

SYMPTOMS.

The symptoms vary with the severity of the attack and the duration of the trouble. The chronic forms are less painful and tender than the acute. A sensation of weight, heat or fullness appears in the rectum and may amount to actual pain which in severe cases may involve the uterus, bladder and sacral region and even radiate down the thighs. With this tenesmus, a constant and ineffectual desire to empty the bowel occurs and this continual straining frequently produces a prolapse of the mucous membrane, es-

pecially in children. Irritation of the trigonum vesicae causes frequent micturition or sometimes retention. By this time the engorged membrane is bleeding, perhaps with a mere streaking of the passage or occasionally considerable discharge of clear blood Kelsey reports a case where this loss of blood was the first symptom that attracted the patient's attention. A case of proctitis with hemorrhage without any of the antecedent symptoms is rare. Later mucus and pus are voided. Examination at this stage reveals ulceration to some extent. It may be very superficial and limited to one or two small points or have many foci, some of which may be quite deep and involve the whole thickness of the mucous membrane or even perforate the bowel. When ulceration occurs above the peritoneal fold it results in peritonitis, and when below that line, in abscess and fistula. A chronic proctitis may in this way cause a stricture.

In all forms of proctitis the anus is red and painful, the sphincter and levator ani muscles irritable and spasmodic, and associated with the local symptoms there is always more or less constitutional disturbance. In chronic proctitis, the symptoms are less marked, diarrhea alternates with constipation and the discharge occurs only with defalcation. The inflammation may be limited to only a small part of the rectum or may involve all of the organ.

The symptoms of dysenteric proctitis are similar to the catarrhal chronic except that more of the bowel is involved and the systemic influence more marked. When the diphtheric variety is found other members of the about using the same closet. The gonorrheal form has its characteristic free, creamy white discharge issuing from the anus, the rectum becomes hot and swollen and the pain is burning and intermittent. The anus chafes and the sphincter is spasmodic. The proctitis is usually of short duraton and can easily be differentiated on account of the disease in the vulva or urethra and by finding the gonococci in the pus. It may, however, if untreated, degenerate into a chronic proctitis. The discharge is freer and contains more pus than any other form of proctitis. It must be remembered, though that gonorrheal proctitis is rare; Gosselin saw only one case in three years at Louccine.

The following case in my own practice some time ago gives a vivid picture of this form of trouble: Case II., referred to me by Dr. Watts and first seen by him, suffered from gonorrheal infection of the whole genital tract. Abscesses had developed in Bartholin's glands and rupturing into the rectum had produced labiorectal fistula on either side of the vagina, from which there was considerable discharge. The examination revealed sinuses into the rectum above the external sphincter. Rectal examination showed on inspection, a free discharge rectum when the patient was requested to bear down although the from the vagina and also from the sphincter, which was spasmodically contracted, would ordinarily retain the discharge. The anus was quite inflamed. The digital examination showed the rectum was tender and disclosed an abrupt stricture about two and one-half inches above the anus. This stricture was at nearly the lower level of the internal sphincter muscle and was annular in shape and diaphragm in form, that is a thin membranous septum. No marked induration was felt at any point, but as the finger was withdrawn is was covered with blood and pus and a few shreds of mucous membrane.

The specular examination was especially instructive. The active inflammation began immediately above the external sphincter and appeared localized below the stricture. The whole

mucous membrane had a honeycomb appearance and was covered with white fibrous shred resembling the "trippen faden" of urethritis, only much larger. They were easily removed, but left the mucous membrane inflamed and bleeding. As the rectum was dilated the stricture could be seen to stretch and tear. The trouble appeared to be localized within the lower two inches of the rectum.

PROGNOSIS.

Proctitis is not very serious, as a rule, unelss the cause can not be found and removed. When the cause is removes the case heals kindly unless complicated by ulceration, abscess, or fistula. Sometimes a perirectal lymphangitis or phlebitis may protract the case or so leaving no appreciable permanent alteration in the bowel except in those cases where ulceration or gangrene has occurred. Chronic proctitis is liable to continue indefinitely unless the cause can be removed. The mucous membrane is thickened and indurated and loses its sensibility more or less, so that a large bolus of feces may collect without stimulating the rectum to expulsion. Stricture of the rectum generally has some chronic proctitis associated with it; below the stricture the mucous membrane is congested and covered with pus or mucus, while above the stricture ulceration occurs. turator is withdrawn the air rushes in of proctitis is important and a digital examination should be made in every patient presenting a chronic diarrhea, because many of the causes given above predisposing to or exciting proctitis may be promptly determined. When the patient is placed in the knee chest position, the proctoscope is well oiled and introduced, and as the obturator is iwthdrawn the air rushes in and dilates the bowel and by turning the proctoscope from side to side and gradually withdrawing it the whole surface of the rectum may be carefully and thoroughly explored.

TREATMENT.

The treatment of proctitis varies considerably with the exciting cause and therefore before instituting any treatment a thorough examination must be made. The parts being irritated and inflamed, the examination is very painful unless an anesthetic, general or local is administered. In many instances where for various reasons chloroform should not be given at the time of the examination, the patient may be relieved of most if not quite all of the pain by applying a two per cent soltuion of cocaine. A general anesthetic has much in its favor, because when the patient is asleep the sphincters may be thoroughly dilated, thus relieving the tenesmus and greatly facilitating subsequent examinations or treatment. At the same time any local trouble or cause of the proctitis may be removed, thereby accomplishing two things at one sitting.

Acute cases require absolute rest in bed, because when the patient is up and about his duties the dependent position of the vessels together with the thinness of their walls and the associated congestion and inflammation produce a venous stasis which seriously impedes or prevents regenerative changes.

The diet should be plain and of such a variety as will insure soft or semi-solid evacuations. It is often advisable to maintain a largely absorbable dietary that the bowels may move infrequently, thus sparing local movements of the parts. Twice each day the bowel should be douched with two quarts of one percent Boro-Pine Solution.

To begin with, a temperature of 105° F. may be used and the temperature raised each day. I have devised a douche tip of my own to be used in these cases, because I have found it impossible to obtain a free return flow

with any I have found, and unless the exit is large the fluid will pass up into the colon and carry the infection up with it, instead of washing it out. By practical experience, I find that douchinp in this manner washes out a large amount of infectious material, such as secretions, fecal accumulations and hordes of micro-organisms; dissolves mucus and pus, flushing them out as shreds; contracts the vascular strictures, thereby stimulating circulation, and relieving the local congestion and depleting the tissues.

Following the douche, about two drachms of astringent antiseptics or other medicinal mixtures are injected and the patient instructed to retain it. Silver nitrate, hydrastis, glycerole of tannin or acetate of lead in various combinations and strengths, according to the case are the most reliable drugs. If the pain and tenesmus are not relieved laudanum and starch water may be injected every two or three hours until the patient is relieved. From twenty to sixty minims are often needed in this way.

Hot fomentations applied over the hypogastrium give much relief when the inflammation extends over a large area and when there is general, diffuse pain and tenderness. In mild cases limited to the lower end of the rectum, the applications of cold to the anus and perineum or the injection of cold water into the rectum relieves the congestion promptly.

When the proctitis is due to thread worms injections of lime water or salt water and the administration of santonin internally will be enough. Gonorrheal proctitis, like its counterpart in the uerthra, is especially intractable. Boro-Pine solutions 1-300 should be used to douche the rectum, but the same conditions must be observed as are mentioned above in speaking of the rectal douche. The strength is to be gradually increased as a tolerance is obtained until a 3-100 solution is used following the douche the whole mucous membrane is swabbed with balsam copaibae or a suppository containing balsam copaibae and iodoform each 5 grains may be inserted.

The chronic forms of proctitis are somewhat different. Barring the very mild cases, it may be said that unless carefully treated they all become chronic. The douching should be instituted in these just the same as in the acute cases because of its alterative ecect. The excesive secretion is controlled with applications of alum, zinc or silver or any of these combined in a suppository with iodoform or one minim of oil of turpentine.

When ulceration, periproctitis or any other complication exists it requires its own treatment, which, for obvious reasons cannot be entered into in this paper. Syphilitic cases are associated usually with strictures which may require surgical treatment, although I have seen astonishing changes occur under general internal medication. Tubercular proctitis is usually secondary to disease higher up and is accompanied with so much ulceration together with the general systemic infection that treatment is unsatisfactor. The treatment of procititis due to cancer is surgical of course, and can not be considered here.

Proctitis in either the acute or chronic form is always a serious matter, deserving of the physician's most careful attention because the inflammation itself may debiliate, and especially because complications which may invalid the patient are prone to occur. Each case is a law unto itself and this article cannot go into the details that may perplex the attendant. but simply tries to give the reader a clear clinical picture in general and to lay down the main lines of treatment.

WHO IS TO BE BELIEVED.

By George L. Servoss, M. D., Gardnerville, Nevada.

Every little while, in the secular press, we run across articles in which the doctor is made the point of abuse, and usually by men outside the medical profession. These writers claim to be able to advise people how to live, in that they may retain their health at all times, and in consequence will not need the services of men versed in medicine. As a rule such writers are never in the "pro" class. They can see no good in anything that may have been suggested by the investigators of things medical.

Vaccination for the prevention of small pox, despite the findings of hundreds and thousands of medical men to the contrary, is pronounced practically worthless by these wise men. They claim, because of the fact that, in a certain small percentage of cases, a secondary infection has occurred, that vaccination should never be practiced, in spite of the fact that the occurrence of the disease has been lessened, and its severity decreased, and the mortality following reduced. Such writers say that vaccine is a "rotten" product, regardless of the fact that it is made in a cleanly manner and produced through the medium of absolutely healthy calves, and under the strictest aseptic methods. These men will not admit the fact that the accidents of vaccination are, in the vast majority of instances, due to carelessness upon the part of the one vaccinated, rather than to the effect of the vaccine itself, or of the mode of the vaccinator. Observations in the cases in which infection has followed, other than that anticipated from the action of the vaccine itself, have been due, practically in every instance, to carelessness upon the part of the patient.

Vaccination for the prevention of typhoid fever, despite the fact that such application has been shown to prevent epidemics, is made the subject of attack by these men who can see nothing good in the efforts of the medical profession. Here again they accuse the doctor of employing a "rotten" product, despite the fact that this agent is manufactured under the strictest aseptic procedure, and produced through the medium of healthy animals. These writers say that, if proper measures are followed, there will be no epidemics of typhoid fever. This is true, but it frequently occurs that such measures cannot be followed, and in such instances, the vaccination to prevent epidemics is undoubtedly the next best step.

The antitoxins and bacterins are likewise attacked, and for the same reasons as are the vaccines. In fact all of the serum, or bacterial products are pronounced worthless, in the face of the fact that such agents have been found worthy of employment by those men who have studied them and their effects.

These writers seemingly refuse to accept anything of a statisical nature as a basis upon which to make their assertions. They do not admit that diphtheria, which until within the past two decades carried with it an alarming mortality, has been made a disease of only passing notice, through the application of antitoxin. They will not admit that the mortality, in epidemics of this disease, has been reduceed to practically nothing, as compared with what it was thirty years ago. They will not admit that administrations of antitoxin to those exposed, but who may not have contracted the disease, grant them immunity.

Despite the fact that satisfactory terminations have followed the use of bacterins and autogenous vaccines, in many cases of infection, these writers for the lay press continue remarking that these products are "rotten" and should never be employed. This in the

face of the fact that life and strenth has been conserved for the patient.

These same men likewise contend that no one should ever be given a dose of a medical drug, as drugs are "nasty" and that they cause certain conditions which the patient has to be rid of, in addition to the direct causes of the disease from which he may be suffering. In fact these writers san see absolutely nothing of worth in connection with the practice of medicine. They will not admit that the control of temperature has any good effect, or that the cleaning out of the bowels of the patient afflicted with autoinfection is of any worth. In fact, in their eyes, everything that the doctor does, is wrong.

Writers of this class are forever contending that the average doctor never makes any move toward keeping their patrons well, in fact invites illness upon the part of the latter. They overlook the fact that conscientious doctors, as a rule, are careful to establish quarantines in the face of epidemics of infectious and contagious diseases, in that spread thereof may be limited. They do not investigate to any great extent, prior to expounding their views, else they would discover that the vast number of the medical profession are doing everything in their power to prevent the occurrence of diseases of all sorts. They do not admit that preventive medicine is now being given as much, or more. attention than is curative. They do not recognize the fact that doctors are giving great attention to matters pertaining to more perfect sanitation, in that the people of the world may be blessed with greater conservation of health.

The doctor, as a rule, is a man who has given his life to the study of the prevention and cure of disease, and it is through his observations that any advance is made in this direction. He, if he be educated and at all observant, knows what is best for the continued health of his patrons, and if he be conscientious, he sees that those placing themselves under his observation continue in health. Much can be said regarding the proper modes of living, but it is another matter to get all to live in such a manner. The doctor is forever telling those who place themselves in his care, just how to live, but to enforce things of this sort is another matter. Man may be told not to eat this and not to eat that, but he will frequently go absolutely contrary to all teaching, regardless of the fact that he may know that such action on his part may be followed by dire results. Man may be told that an out-of-door existence is all that will save his health, but will give but little heed to such advice. The doctor gives such advice as much as does the writer for the secular press, who invariably contends that the doctor would much rather see man ill than in health.

The doctor is a man trained in the art of prevention and healing of disease, and it would seem, in the face of such fact, that his opinion would be of much more worth than is that of one who, as a rule, follows some other walk in life, excepting when devoting a few minutes to the abuse of the medical fraternity.

It is true that we have many sanitariums outside the ranks of medicine proper, but these men confer with the doctor and base many of their acts upon such advice. It is the doctor who has made the majority of the discoveries in connection with proper sanitation and hygiene, and who has subsequently applied these discoveries in a practical manner, and the thinking man admits the truth of this.

It is the doctor who has observed the actions and effects of drugs in the treatment of disease, and who knows that certain agents of this sort, applied in the face of certain indications, bring good results, as a rule. If he be a good doctor, in the broadest sense of the

word, he will refrain from the use of any drug agents which will cause the formation of habit, if continued over a considerable length of time. He will only apply drug agents as indicated and when no longer needed, will discontinue their use. The layman, no matter how well he may be versed in things of a medical or sanitary nature, because of his lack of clinical observation and training, is not in a position to say as to whether a drug agent is good or bad, or as to whether or not it should be employed. He has not the right to pronounce such agents "nasty" and worthless, as he knows nothing of their effect in the treatment of the sick.

These writers for the secular press say that the doctor, in some instances, is unable to make a diagnosis of the condition when first seen. This may be, and is, true in many instances, but that should not interfere with the proper treatment of the patient. There are invariably certain indications presenting which may be given attention and by so doing it has frequently occurred that the normal has obtained without the doctor being able to give a name to the condition. It is a recognized fact that many indications are common to many of the named diseases and that the treatment in all cases is realtively the same, so it matters but little whether we have a name, or not, for the condition under observation. If we bring the patient back to normal that should suffice, despite the fact that we have been unable to tell just what the matter might have been. This does not occur in the vast majority of cases, however, as our secular writers would maintain, as it is found, in the vast majority of cases that there are certain pathognomonic signs present which will direct the doctor in the making of his diagnosis.

To revert to the subject of this paper, it is a self evident fact that the doctor is the one who should be believed in connection with all questions pertaining to health, sanitation and hygiene, as it is he who gives the greatest attention to matters of this sort. He is, or should be, versed in these subjects to a greater extent than is he who only gives them passing thought and who is not conversant with the application thereof The doctor sees the effects of agents employed for the relief of disease, and knows which of such agents to employ, through his clinical observations. The secular writer has none of these advantages, and in consequence has nothing upon which to base his arguments. We will admit that the doctor sometimes makes mistakes, for he is human and liable to err, but in the main his acts and advice are followed by satisfactory results, ,and he is the man who should be believed in all matters pertaining to the conservation of health.

TUNNEL COMPLETED TO JUNGFRAUJOCH.

Although trains have been running since 1905 as far as Eismeer Station, which is 10,345 feet above the sea, it is only recently that a tunnel has been pierced to Jungfraujoch, at an altitude of 11,348 feet, or 2,311 feet below the summit of the Jungfrau. The total length of the tunnel is about 6¼ miles. When trains are run to the station which is to be constructed at Jungfraujoch it will be possible, by descending the Jungfraujoch, to reach the summit of the Jungfrau in from three to four hours from the station. It is proposed further to exploit this superb mountain by constructing a lift, or aerial railway, from the highest station to the summit of the peak, so that the feeblest persons will, if they can endure the air conditions, ascend to a height of 13,669 feet. The Jungfrau Railway, even as far as it runs at present, is 167 feet higher than the Gornergrat Railway,

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ORIGINAL ARTICLES are solicited from our readers. We wish articles which are sent us to be contributed exclusively to this magazine. We will send the writer of any original article, if desired, twenty-five extra copies of the number containing the article. We are also willing to send copies to the professional friends of the author.

LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 JULY, 1912 No. 7

THE MOSQUITO

We are appalled at the statement of the number of deaths, (said to be 200,000) caused by tuberculosis in the United States each year and have taken notable steps toward preventing this unnecessary and terrible mortality, however, another instance of neglect in safeguarding the comfort and lives of the people, can be more clearly understood perhaps, when one stops to carefully consider the statement recently made in the public press by Dr. Avery of New York, that 250,000 people lose their lives in the U. S. annually because of diseased conditions communicated to them by mosquitoes.

Computing the commercial value of these lives to their families and the communities in which they live, at the usual minimum of $5,000 each, the loss aggregates $1,250,000,000 each year. Mosquitoes are not found, nor can they propagate themselves, except where there is stagnant water. The government survey discloses the fact that in 41 of the 48 states there are 75,000,000 acres of swamp land and 150,000,000 acres that are overflowed, part of the time every year The loss of productiveness, in an agricultural way, of this very large acreage, causes a loss of at least $3,000,000 as per the estimates of the National Drainage Congress, which was organized at Chicago last December. Colonel William C. Gorgas of the medical corps of the United States army has consented to serve as Vice President of this congress and has the consent of the Government permitting him to direct the campaign of extermination, which it is proposed to wage against mosquitoes.

His complete success in ridding the Panama canal zone of these pests and thus preventing entirely, the diseases, whose contagion was distributed by the mosquito, gives great promise of his success in this undertaking too. The United States Department of Agriculture will aid in this war. It has issued two bulletins on the subject, both by Dr. L. O. Howard—(No. 44, Remedies and Preventives against Mosquitoes, and No. 450, Some Facts About Malaria). He says that the best protective liquid to use is a compound of one ounce of oil of Citronella, one ounce of spirits of camphor and half an ounce of oil of cedar. A few drops on a cloth hung over the head of the bed will keep the common house mosquito, or culex away. The Anopholes are the kind of mosquitoes that serve as disease carriers or intermediate hosts. If necessary some of the above named mixture can be rubbed on the face and hands. He also gives several recipes for smudges and fumigants and says that moist soap rubbed on the bites is the best remedy. He concludes that the only sensible thing to do is to destroy the breeding places. Even a small amount of water will make a

breeding place for many mosquitoes, he writes."

"The drainage of swamp areas, primarily in order to improve sanitary conditions and reduce the scourge of mosquitoes, needs, no argument."

"The gain to the public health that would result from the drainage and reclamation of our great swamp areas," says Mr. Perkins, acting president of the National Drainage Congress, would be of equal value as a great gain to the public wealth. No one would question the statement that the saving of 250,000 lives annually would be worth the expenditure of the $850,000,000, or $1,000,000,000 that would drain and reclaim the swamps and marshes.

"Yellow fever has been banished from the United States, but malaria still remains and takes its enormous annual toll in lives, decreased physical and mental efficiency, retarded agricultural and industrial development, and adds to the already too rapidly soaring cost of living.

"In Dr. Howard's pamphlet on malaria he says that Dr. Ronald Ross of the Liverpool School of Tropical Medicine first discovered the relation between the disease and mosquitoes about twelve or thirteen years ago, in India, and that his results were soon confirmed by other workers in many parts of the world, and his conclusion, has since been accepted by the best physicians in all countires. I have secured my data from Dr. Howard's pamphlet.

"Malaria is also known as fever and ague, chills and fever, marsh fever, intermittent and pernicious fever. It is caused by parasites in the blood. These parasites are introduced through the beak of the malaria mosquitoes, the amopheles. The amopheles carry the parasites from person to person. This is the only way malaria can be contracted. The parasites have not been found in the water or air of marshes, nor in decaying vegetation, nor in the soil. The mosquitoes that breed and carry the parasites do breed in marshes and swamps. Many newborn babes are bitten and inoculated with the parasites.

"There are three species of the anopheline mosquito in the United States; the quadrimaculatus, commonly found in the more northern states; the crucians, more abundant in the southern states, especially in the coastal regions; and the punctipennis, common in both northern and southern states. The anopheline mosquitoes have more or less spotted wings and their bodies incline away from the wall when at rest, instead of lying against it. As a rule they bite only after sundown. They breed in all sorts of accumulations of standing water.

"The work of Col. Gorgas in fighting these disease breeding mosquitoes in the canal zone shows that he appreciates the necessity of destroying the places that breed them. We hope to benefit by his experience and advice.

"The drainage of our swamps becomes a national problem because of its effect upon the general health. By reason of state line complications, and because drainage operations necessarily affect the navigal le rivers, it is a problem that one state alone, or the individual cannot solve. It is a task for the national government to undertake. For that reason our organization has asked Congress to take immediate steps in this direction by the creation of a commission to work out a comprehensive national drainage system in cooperation with the states .

"Incidental to the elimination of malaria there will be vast additions to our national wealth To drain the 75,000,000 acres of swamp and overflowed lands should not cost more than $10 an acre, or $750,000,000 The reclaimed land should produce at least $30 per acre annually or $2,250,000,000.

There are 150,000,000 other acres now cultviated but which produce only 80 per cent of crops they should, according to the Department of Agriculture, because they are too wet. Five dollars more per acre from these would mean $750,000,000 more in crops each year.

"So, national drainage reclamation will mean not only the saving of thousands of lives annually, but the addition of $3,000,000,000 to our farm produce each year J. V. S.

THE DOCTOR'S LIBRARY

The Friends of the Insane, by Bayard Holmes, M. D., Chicago, Ill. Published by the Lancet-Clinic Company, Cincinnati, O., is one of the most interesting and instructive books that we have read for a long time.

Under this title are grouped several of the essays written by this well-known author and teacher. Besides those which deal with some phase of the question of the custody and care of the insane and those that point out how little attention is given to real earnest attempts to cure this most terrible of all of our afflictions, there are chapters on the following subjects: Myostitis Ossifications, Albinism, The Exploitation of the Mystical in Medicine, The Feebleminded, Lesson from the Hookworm, Lesson from Veterinary Medicine, Cystinuria, etc., Pellagra, Laboratory for Psychiatry, The Soul of Medical Education, State Universities' Growing Function, Medical Defense by State Societies, Orphanotrophism, Team Work in Medical Research, Influence of the A. M. A. Assn. upon Current Medical Literature, The Medical Book Store, Buried Treasure, The Country Doctor and Typhoid, The Septic Tank, Standard af Rural Life, Bless the Cook, Jaundice in the New-Born, Death from Acapnia. Such a varied and attractive list of subjects present to the doctor a real feast of good and practical ideas that he ought to read and ponder over.

There are 257 pages in the book and it can be obtained from the author or the publisher for the very moderate price of $1.00.

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A Manual of Clinical Chemistry, Microscopy and Bactriology, by Dr. M. Klopstock and Dr. A. Kowarsky of Berlin. Only authorized translation from the last German edition, thoroughly revised and enlarged. Illustrated with forty-three textual figures and sixten colored plates.

This book published by the well-known publishing house of Rebman Company, 1123 Broadway, New York City, is the best adapted to the uses of the practitioner of medicine as well as to the needs of the student, of any with which we are acquainted, where concise, reliable, practicable and the really essential methods are desired in one compact volume, for working out the every-day problems confronting the general practitioner, particularly those who are so situated that it is not very convenient for them to depend upon expert laboratory men to do this kind of work for them, or who prefer to do it for themselves. The pages relating to Typhoid fever and to the meningococci have been written with great care while those dealing with the spirocheta pallida and with the Wasserman reaction, especially, are entirely new and the entire book is fully up to date. The price is three dollars. There are almost four hundred pages. It is a valuable book for the graduate of former days, too. —J. V. S.

INSOMNIA: Its Causes and Treatment, by Sir James Sawyer, of London, Doctor of Medicine of the University; Fellow of the Royal College of Physicians, lately Lumleian Lecturer; Fellow of the Society of Antiquaries, of Edinburgh; Fellow of the Royal Society; Consulting Physician to the Queen's Hospital, Birmingham; once Professor of Pathology, then of Therapeutics, lastly of Medicine, in the Medical School; Knight Bachelor. Second edition with many revisions and additions. Published at Birmingham, England, by Cornish Brothers. Price 2s, 6d, net.

This volume of over 100 pages 8 vo. is a very valuable contribution to the literature on this subject and is not only a very readable and helpful book but is one that will be often consulted with reference to this very prevalent condition, seemingly largely due to the mad haste and "rush" of modern business, professional, commerical and even social life. There are three divisions of the book dealing with the subject as follows: "The Causes of Insomnia," "The Treatment of Insomnia" and a "Practical Summary of the Physiology, Pathology, Etiology, Varieties and Treatment of Insomnia." The analysis of the medicinal agents that are administered for this condition is an especially helpful and suggestive one, as well as the classification of the different kinds, determined by etiological and pathological conditions found. —J. V. S.

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The second number of the International Clinics' quarterly is ready for distribution. In this publication, J. B. Lippincott Company of Philadelphia and London are furnishing to the medical profession, for the sum of two dollars per volume, one of the most valuable books that appears each year, being bound in permanent form and containing more than 300 pages in each volume of the most carefully prepared and edited contributions from those who are acknowledged experts in the various departments of medicine, such as Therapeutics, Surgery, Neurology, Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Rhinology, Hygiene and other topics, and most carefully indexed it makes a very available and up-to-date reference work. Many of the papers published are not to be found elsewhere, till copied from this volume. It appears four times each year and thus helps the busy man to keep in touch with the freshest and best of each year's literature, without looking up and buying so many separate volumes in an attempt to cover the same ground. This volume helps very materially in enabling the conscientious and faithful student and practitioner of medicine to keep abreast of the times, a rather difficult thing to do in this "rapid" age in all departments of human life and progress.

—J. V. S.

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THE LAST HOPE GONE.

My small niece, aged four, came running into the room where her mother and I were sitting.

"My dolly's sick," she said, "and I don't know what's the matter. I gave her water and she can't swallow that: the doctor gave her a pill and she can't swallow that."

"Then," said I, "I don't see but what you had better try Christian science for her."

"We have tried it," said she, "and she can't swallow that."

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PHYSIOLOGICAL URINE ANALYSIS

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

It is a universally conceded fact that more information can be gained from a thorough urine analysis than from that of any other secretion or excretion of the individual. This notwithstanding the fact that the commonly accepted idea of a urine analysis consists of a search for albumin, sugar and casts in a morning specimen.

As all the soluble waste of the organism is excreted by this channel, with the exception of the larger portion of carbon dioxide, which goes by way of the lungs, it will readily be seen that it is possible to measure these wastes very accurately by using suitable methods. Knowing the total amount of waste excreted by an individual, it is easy, by referring to established standards, to form an opinion as to whether too much or little is being disposed of.

The standards at present in use for this purpose are, however, placed entirely too high. It is a well-known fact that the present generation is one addicted to high living, especially as regards foods rich in protein. And as the excretion of waste in the urine is derived from two sources, viz: tissue metabolism and food metabolism, it will be readily seen that the more food the more waste.

As all the data so far available have been taken as a rule from strong well-built, men, usually of the laboring classes, which are among the chief offenders in the way of excessive protein diet, the total daily solids computed from such data naturally are excessive when applied to people living on a rational diet, free from excess protein.

Our experience has shown that the solids excreted in 24 hours under hygenic food and other conditions, are but little over one-half the amount usually stated as normal. This is compatible with perfect health, as the excess work due to excessive food is taken from the organs of digestion and assimilation.

The only practical method at present available for ascertaining the daily solids is by calculating them from the specific gravity. The results obtained in this manner are of course worthless unless the specimen represents a mixture of the twenty-four hours' urine. Single specimens taken from the same individuals at different times during the day vary widely in specific gravity, and hence, in amount of solids contained.

In a specimen representing the well mixed twenty-four hours' urine, and free from decomposition, the specific gravity is directly proportional to the content of solids, and if the total daily quantity is known, the total daily waste output can be calculated sufficiently accurate for clinical purposes by means of Haeser's coefficient, i.e.,

multiplying the last two figures of the specific gravity by 2.33.

That these results are not strictly accurate is true enough. Various attempts have been made to improve on Haeser's factor, some authorities going as high as 2.5 while others go below, considering an even 2 as more nearly correct. The probability is, however, that the factor 2.33, occupyig as it does the mean between the extremes suggested, is the safest to use, until it shall have been proved to be wrong.

Having ascertained the daily output of waste, in other words the total solids, we next compare with the normal for that individual. This has been ascertained as follows:

From a large number of analyses made from individuals subsisting on a rational diet, the average daily excretion was taken, and the amount per kilogramme of body weight computed from this. From these data we found that this factor was .786 grammes. Consequently an individual under normal conditions of living, should excrete in 24 hours .786 grammes for each kilogramme that he weighs. Pounds may be converted into kilogrammes by multiplying with the factor .445.

Either the total solids will be normal, that is sufficiently near the standard to be considered so, or they will be above or below normal.

In the former case, that is above normal, the inference is at once clear that we have to deal with either increased tissue waste, excessive food waste or both. As the waste derived from nitrogen metabolism has been found to be somewhere in the neighborhood of three grammes daily, even a large increase in waste from this source would have little influence on the total solids.

It has been found, however, that in some cases of exophthalmic goitre and other forms of hypertrophied thyroid, that we do have an enormous increase in this kind of waste, altogether due to the increased oxidation processes set up by the overgrowth of this organ.

Most cases can be clearly traced to excessive food metabolism, in other words, overeating, and a regulation of the diet habits will usually bring the solids to normal in a short time, and by taking the excessive work off the organs, benefit the patient correspondingly, without impairing nutrition.

On the other hand, if the total solids are below normal, we must look in a different direction. The most common cause is a lack of water. In such a case the solids are in normal amounts in the body, but there is not sufficient water to dissolve them and carry them off. This is retention of waste and can usually be corrected by increasing the ingestion of water.

It will often be found, however, that in cases where solids are present in normal or subnormal amounts in the urine, the latter being low in quantity, the administration of sufficient water to make the daily bulk of urine normal, will also, by washing out the retained solids, show them to be in normal or even excessive amounts. Before considering then, that the total solids are not above normal, we must make sure that the amount of water is sufficint. For each kilogramme of body weight, 22.5 grammes of water should be excreted daily.

When, however, with a normal or above normal bulk of urine the solids are still subnormal in amount, it is evident that they are not being formed, and that the question of sufficient water does not enter into consideration. In such a case, unless of course we have to deal with inanition or starvation in some form or other, we usually find that a lack of oxidizing facilities is the cause of the deficiency.

While the seat of oxidation is usually referred to the liver, there is no doubt

that the internal secretion of the thyroid gland governs the function in some manner as yet unexplained. We have found that individuals with defective thyroids usually excrete an altogether inefficient amount of soluble waste.

As the soluble wastes produced by oxidation from the original insoluable products of metabolism are much less poisonous than their antecedents, it follows that the condition last described is of a more serious character than mere mechanical retention due to insufficiency of water, owing to the much more toxic nature of the substances retained.

The reverse condition may, and does occasionally show itself. Just as in individuals with defective thyroids oxidation is insufficient, in cases of hypertrophied thyroids this function may be in excess. In such a case excessive solids would be the findings.

Having thus determined the relative importance of the patient's total daily solids, which naturally carries with it the question of sufficient or insufficient water, we may next take up the various constituents composing these total solids.

There is no doubt that we do not know nearly all of these constituents. Even with the reduced quantity which normal living brings with it, there is always a large discrepancy between the total solids and the sum of such constituents as we are able to isolate and estimate.

Probably the most important of these better-known substances is urea. As it is largely a result of protein feeding, its daily quantity, under a normal diet fall far below the standards heretofore accepted as correct.

As far as the various salts are concerned, they have been taken up in detail in a previous article.

This leaves us then the various co-called abnormal ingredients, which, except sugar in advanced cases of diabetes, never seriously affect the total solids, being usually present in comparatively small amounts.

Possibly the solution of the problem is to be looked for in the index of acidity. According to common opinion, urine owes its acidity chiefly to acid sodium phosphate. But the degree of acidity is often out of all proportion to the phosphate output, consequently some other factor or factors must enter into consideration.

What these factors might be, has not yet been discovered. Various experiments have given rise to suspicion that possibly some of the fatty acids may be concerned in the production of a high acidity. Nothing definite has as yet been ascertained.

But next to the total solids, this is the finding which must engage our chief attention in a physiological analysis. As in a general way, acids are derived from proteins and alkalies from vegetable food, a high degree of acidity bears witness to an excess of the one or lack of the other food ingredient.

In either case, the vegetable bases being in insufficient amounts to neutralize the protein acids, it becomes necessary for the ammonia bases to be called upon for this purpose. That this has been the case becomes evident by the increase in ammonium salts in the urine, with a corresponding reduction of urea. The latter is due to the fact that ammonia forms one of the antecedents of urea, and being sidetracked, so to speak, cannot perform its function in this respect. Consequently the various harmful substances by whose junction with ammonia are formed uric acid, xanthins and eventually urea, are left free to work harm in various ways.

Hand in hand with excessive total solids, a high degree of acidity, and an increased ammonia index, we also usually find indican or some of its con-

geners, as another evidence of excessive protein ingestion.

Another factor which often makes its appearance under such conditions is acetone. Usually this is not looked for, except in cases of diabetes, when its presence is considered a bad prognostic feature. This is undoubtedly true, but acetone is by no means peculiar to diabetes, being as a matter of fact a result of the restricted carbohydrate diet used in this disease.

The presence of acetone always means carbohydrate starvation, and is a danger signal which can be quickly disposed of by administering easily assimilated carbohydrates, such as cane-sugar in sufficient amounts.

Diacetic acid, which is often found together with acetone, and just as often without it, seems to be due to imperfect oxidation of fats, and the withdrawal of fats from the diet will usually cause it to disappear.

The other abnormal ingredients will be taken up in another article.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

ORGANIC HEART DISEASE.

For many years I have been accustomed to manage cases of organic heart disease, and with such success that I had gotten to feel that these affections need not necessarily shorten the victim's life, even though the lesions were incurable. If the casual malady has come to an end, and the patient has learned the lesson of what he can and can not do, the prognosis is usually good. Usually—not always. It needed one of the exceptional cases to remind me, that something more is needed than the diagnosis of 'valvular disease,' and that the course of the various valve lesions is by no means uniform. Also the lesson had to come in the case of one in whom I had far more than the usual interest a physician feels for a patient, one very dear to me.

A lovely girl of 17, with all the graces of budding womanhood, beloved by everybody, amiable and of a sprightly wit that won all hearts. She had had rheumatism twice, severely, and four years ago I found her aortic valve imperfect, allowing regurgitation. Returning after some years spent in Texas she presented the following appearance: She had grown quite tall—beyond her strength, was exceedingly thin, weighing only 80 lbs., for a height of five feet five inches; had frequent headaches, constant pain in the abdomen, increased by eating, vomiting every morning and often after eating, constipated, menstruation twenty-five days out of each month, always hungry, sleep disturbed and rising every night to eat. Examination showed that the heart lesion had increased and that organ was greatly hypertrophied, the beats shaking the chest. Urine normal; stools showed no evidence of intestinal disease or any infection, excepting a very great number of colon bacilli. No dropsy or hemorrhoids to indicate venous obstruction at any time.

This led me to hope that compensation might be established, and the further progress of the malady be stayed indefinitely, as had so often been the case with other cardiac cases. The girl was kept quiet, the diet limited as to bulk and composed of highly nutrious and readily digestible articles, fluids closely restricted, the bowels emptied and kept soluble. The menorrhagia soon subsided, and the morning vomiting stopped; but she did not improve materially or gain weight. Tincture of

chloride of iron was administered in five-drop doses, but disagreed, throwing her stomach out of order at once. She was then given lime, the citrate and chloride, in full doses. Under this she improved, the menorrhagia stopping, and her general appearance showing somewhat better—yet the benefit was small and by no means what was hoped.

It is needless to enumerate the expeidents employed to restore this child to health. All failed. There seemed to be a lack of recuperative power, an absence of reaction, that left the most carefully devised methods of treatment without effective response. Pains still followed eating, and without great care in diet she vomited her food soon after eating. The bowels were readily regulated, and the disorder there controlled by a little calcium sulphocarbolate. Meanwhile she was losing slightly in weight but not apparently in strength. After consultation with Dr. Thurston it was concluded to put her on full doses of sparteine sulphate, to control and regulate the over-active heart. No especial response followed. Two days later, she went to bed about as usual, got up in the night several times, as usual, and at six a. m. was found in her room in convulsions. From these she did not regain consciousness but died at 8:50 a. m.

The autopsy showed the heart greatly hypertrophied, the aortic valve imperfect but the leaflets free from vegetations, thin as tissue, the stomach, intestines, and other pelvic organs congested, the kidneys the seat of an acute inflammation which was the immediate cause of death. There had been no trace of dropsy, hemorrhoids, or any symptom directing our attention to the rephritis. The liver and spleen were not enlarged. There was some congestion of the lungs but no means excessive. The other valves were normal although there had been a mitral murmur in addition to the well-marked aortic one. The emanciation was extreme, and this may account for the absence of vegetations about the valves. So often I have diagnosed organic lesions by the murmurs and found them disappear under the persistent administration of powerful absorbents for months, that I am sure that some of these growths are yet intravascular and therefore under the influence of agents carried to them by the circulation. Yet not all these evidences of disease subside, so that an unknown portion is extravascular and beyond the reach of drugs. The condition here was one of extreme starvation, from the inability of the gastrointestinal veins to absorb food, and the cardiac vegetations were probably absorbed. The uterine hemorrhage was probably due to the passive congestion of all the pelvic apparatus; but why did we have no ascites, or enlargement of the spleen and liver? Why were there no symptoms to direct attention to the nephritis—no headache, vertigo, vomiting, backache, restlessness, dropsy, oliguria, hematuria, etc? I should have stated that her sight had been much affected, and a month before her death an examinaton had shown the presence of retlnal hemorrhage and dropsy. The difficulty of vision had increased since the examination.

The prognosis of aortic disease is not as good as that of mitral affections, and the course of aortic insufficiency is apt to be rapid, especially in the younger subjects; yet withal there was something more in this case.

Apart from the physical strength and the condition of the vital organs there is the question of relative vitality. One person may survive where another apparently identical will perish. There is an inherent tendency to death in some persons—or perhaps in some families. The psychic question is also eliminated—there was no sense of

apprehension here, and the girl remained happy and hopeful to the last.

The moderate intestinal infection may be readily accounted for—the passive congestion lowered the vitality of this region and the resistance to the colon bacilli, allowing these organisms to multiply beyond their usual numbers. This was enough to distract us somewhat, as we feared there might be an infection by some one of the intestinal parasites like hookworm. There was nothing in the history to account for the acute nephritis which carried her off.

Just why was sparteine selected here? The hypertrophy was too great to allow a thought of digitalis; yet the circulation was not maintained. This cut out the depressant group, aconitine and veratrine. Sparteine is usually ranked as a cardiac tonic, but the experimenters place it in a group with gelseminine and cicutine as a depressant. Yet its action is rather a vasomotor relaxant than a cardiac sedative, and it was indicated here to relax the arterioles and allow the heart to pump the blood through the aortic system with less effort, this permitting better nutrition by an increase in the blood supply without increasing the already excessive heart force. Sparteine is not the tensor-diuretic principle of broom, and the acute renal inflammation could not be attributed to this agent, whose tendency would rather be to relax the renal arteries. Sparteine was therefore the exact remedy to allow freeer general circulation, slightly sedate or rather soothe the excited, hypertrophic heart, and thus enhance nutrition. Unfortunately, 'the best-laid plans of mice and men aft gang aglee.' Death stretched his hand over the patient and the cobweb of human endeavor was brushed aside.

DEPT. OF SURGERY

By Hugh N. MacKechnie, A. B., M. D. C. M., Chicago, Ill.

SURGICAL TREATMENT OF COLITIS.

Professor of Junior Surgery, Bennett Medical College, Medical Department, Loyola University

(Continued from Page 243)

I wish to call your attention to a few cases, illustrative of the conditions of which I have spoken above which have recently come under my notice.

Mrs. J. M. W. Age 44. Complains of much mucous in stools. Almost total inability to have stool without enema. Loss of appetite. Gastric and intestinal fermentation. Marked tympany at times. Sour metallic taste. Severe headaches. "Muddy" complexion. Coated tongue. Much loss of weight and strength.

History: Never very strong, always nervous. Two children. No miscarriages. 17 years ago, after first baby, had pelvic inflammations. Since then well till 8 years ago, when she had gastroenteritis from bad water, following which has never been well. Recently had an abscess form in back of uterus. It drained wtihout interference. Family history negative.

Examination: Short, under-nourished, nervous, irritable person, with "muddy" complexion. Tongue thickly coated, white. Temperature normal. Pulse 90 small and of poor volume. Abdomen tympanitic and sensitive all over. Uterus and adnexia sensitive and somewhat fixed. No tumor mass could be felt. Rectal examination with Sigmoidoscope showed rectum lined with mucous.

Advise: Digestants, antiseptics, high colonic flushing followed by Pinns

Canadensis (black) ʒ in normal saline ℥ (xxx) (30) daily. Some improvement but not regular. The colonic tube passed by myself and found curled in rectum. Then passed it through the Sigmoidoscope and met obstruction 4 in. beyond. Under pressure it penetrated and was gripped by obstruction. No blood on tube when it was withdrawn. No tissue found in stools. No amoeba. Marked amount of long, stringy mucous, no blood.

Urine: 1020. Slight alb. No sugar. Few casts.

Blood: Abg. 70%. Reds 35,000,000. Whites 6700. Small mononuclears increased. Blood pressure 125.

Diagnosis: Mucous colitis, due to obstruction by adhesion or band or kinking. Tumor is unlikely. Advise operation.

June 1, 1911: St. Luke's Hospital. Intestines distended. Peritoneum normal. No tumor mass could be felt. A small band formed from an appendix epiploica was stretched across the promontory of the sacrum constricting the bowel, showing lack of adhesions between them. Band cut and raw ends buried.

Appendix removed. Right ovary and surrounding hydrosalphinx removed. Left tube full of puss removed. Left ovary degenerated but a part of it was left. Small adhesions broken. Raw surfaces dusted with aristol. Kidneys normal in location and size. Gall bladder small and easily emptied. No stones. Other organs normal. Closed abdomen. Primary union. Left hospital in three weeks. Some gas formation. Bowels tending to move themselves. No mucous. Appetite good. Tongue moist and red. Metallic taste gone.

June, 1912. Bowels move with slight laxative. No mucous. Sometimes slight headache, due to ocular trouble, which is being treated. Health markedly better and improving.

F. S. About 37. Markedly weak, dizzy and unable to rise. Had retired, gotten up to go to another room and dropped unconscious. Helped to the couch by her sister. Mucous from mouth. Never had a similar attack. Has had four operations. Eight years ago hemorrhoidectomy followed by appendectomy and ovarian work. Four years ago both breasts removed for commencing malignancy. Since then well, until last few months. Recently has noticed some mucous but no blood in stools.

Examination: Half hour after attack, tongue and lips normal. No blood or mucous in mouth, no pallor, skin warm and moist. Temperature 98. Pulse 96, hard and fairly large. Shortness of breath, sighing respiration, expression worried. Pain and distress in cardium. No signs of injury. Scars where both breasts were removed. Abdominal median scar which retracts when patient sits or stands up. Tenderness over abdomen, especially colon. This varies at times. Some tympany. Recently constipated, requiring enemata or laxatives. Suspeteed hemorrhage. Gave Morph. Sulph. gr. ⅛; Glonoin gr. 1-100 and left patient feeling better. Saw her following day, somewhat improved. Had passed about one-half pint reddish jelly like mass.

Urinalysis: 1000 cc. Specific gravity 1028. Total solids gms. 65.24. No sugar, no albumen. Acid units 30,000. No blood, no bile. Phosphates gms. 12.

Stools: Blood marked. Fermentation marked. Stools rancid. Free fat. No amoeba coli, nor dysentery, nor cholera bacillus. Blood 90% Hbg. Blood pressure 130. Tuberculin test, negative reaction. Vaginal examination, negative.

Diagnosis: Either an ulcerative mucous colitis or secondary carcinoma, high up, the former being more likely.

Advised operation. Explanatory

laparotomy. Colon pulled down 3 in. below umbilicus to upper edge of wound. Freed omentum and buried raw edge. Believed stomach and transverse bowel would retract so did not shorten gastro-hepatic omentum. Examined pelvis, kidneys, gall bladder, liver and stomach and found them normal. Intestine normal except in one point at caecum that looks hemorrhagic but not thin. Left alone. Closed abdomen. Normal recovery. Patient left hospital in two weeks with no mucous and no blood in stools. Did not regain strength on account of work but nothing pathologic showed.

In March, 1912, complained of pain in right lumbar region, passing down to groin. No bladder symptoms. No kidney tenderness. After a previous operation she had a similar attack that lasted months. Empirically used tuberculin and pain improved. Four injections, markedly improved and patient returned to her home to continue injections.

No blood, no mucous in stools, strength markedly improved and general condition improved.

Miss R. J. Complains of pain in anterior surface of left thigh. Constipation. Mucous in stools.

History: Patient never sick but never very strong. Professional singer. Until recently quite well with exception of mild attacks of urticaria. About one month ago had an attack, with constipation, etc., etc. Noticed mucous for first time and with it a pain in left groin. This grew worse and extended down to thigh. Made worse by work and excitement. Rest, tonics, salines, enemata do not relive except when patient lies down.

Family history: Mother had syphilis years ago but was apparently cured with perforated palate. One brother living and well. Otherwise, negative.

Examination: Patient age 23 well nourished, good complexion. Abdomen tympanic. No tender point. Pain in leg is not increased on pressure. Left kidney slightly free in movement. Vaginal examination negative. Rectal examination, hemorrhoids. Much mucous as far as sigmoidscope could see. Rectal tube could not be passed beyond third valve except through sigmoidoscope.

Stools: Marked amount of mucous mixed with stools, some blood.

Urine:

Blood: Hbg. 80%. Reds 45,000,000. Whites 8700. Lymphocytes increased.

Diagnosis: Mucous colitis, probably from constipation caused by hemorrhoids and possibly some abdominal trouble.

Advised operation. April 11, 1912, hemorrhoids removed. Under anesthesia left ovary felt enlarged. Opened abdomen. Removed appendix. Left ovary enlarged, very markedly fibrosed and two cysts in it. Removed. Left tube inflamed at fimbria. Right ovray and tube normal. Other organs normal. Closed abdomen. Patient left hospital in 14 days. No mucous, no pain, bowels moving freely themselves.

June, 1912. Patient feeling quite well, no pain or mucous. Bowels moving freely daily without laxatives.

Mrs. E. M. H., age 25; married; one child. Complains of general abdominal pain of a dull aching character, with gas formation, with difficult eructation and flatus pasing. Marked constipation, mucous in large quantities, sometimes constituting the whole stool. Appetite capricious. Tongue coated, headaches daily. Loss of weight and strength.

Examination: Patient fairly nourished. Skin fair, but not clear. Temp. 99. Pulse 90. Tongue coated white. Abdomen suprapubic scar, retracting slightly. Tenderness general and marked over right iliac fossa. Tym-

pany pronounced, especially over stomach and colon.

Vaginal examination: perineum partially repaired. Cervix torn; some displacement backward of the uterus.

Rectal examination through electric sigmoidoscope, showed a large amount of mucous.

Stool: Dark colored: no blood. Much mucous. No amoeba; colon bacili in large numbers.

Urine: Sp. gr. 1020. Acid units, 200,000. Indican very pronounced.

Blood: Hbg. 75%. Reds: 4,500,000. Whites, 8500. Lymphocytes, increased.

Diagnosis: Mucous colitis with adhesions as probable etiologic factor. Advised operation.

May 15, 1911. Operation, Chicago Baptist Hospital. Cut out old supra-pubic scar. Omentum is adherent to same and colon drawn down to wound 3 in. below umbilicus and with it the stomach. Adhesions severed, but stomach and colon did not retract. Made a second incision below ensiform cartilage and shortened the gastro-hepatic omentum by plication. Removed appendix. Closed both incisions without drainage. Patient made a good recovery, leaving hospital in 3 weeks. The pain cleared up slowly, and the mucous gradually decreased. Strength returned and patient put on flesh. On account of doing her own housework, she gained very slowly.

June, 1912. All symptoms have cleared up and patient is gaining steadily in strength. No mucous in stool. No pains.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

(Continued from Page 247)

It is my practice to allow the woman to rise from bed within a few days after labor, provided she desires to do so I see that her first efforts are supplemented by the support of competent persons and that the movements are slow and deliberate. In most cases in private practice the patient does not wish to get up so soon and I do not insist. In such cases I advise certain calisthenic exercises every day while in bed based upon a system elaborated by Dr. C. S. Bacon of Chicago. The day after labor I have her move the arms at the elbows, then at the shoulders, and move the legs by flexing the knee and hip. The third day she moves the legs upwards by flexing the hips and keeping the knees extended, and also moves her body slightly by raising herself on her elbows. At this time I have her propped upon three or four pillows or set up in Fowler's position for half an hour at a time. The fourth day she hangs her feet out of bed and is supported by pillows or by the nurse as she sits across the bed. Also she makes leg and arm movements againt resistance by the nurse. She is allowed and encouraged to raise herself to a sitting posture in bed. The fifth day she may be assisted to a chair at the bedside. The sixth day she may stand on her feet and the seventh day she may walk a few steps. Thus when she is standing up and walking she does not feel those prickling sensations in her feet and legs and that weakness and dizziness which most puerperal women complain of who have been kept reclining in bed for the conventional time.

After-pains are disagreeable occurrences during the first day or two of

the puerperium, especially in multiparae. The lessened tonicity of the uterine muscle in those who have already born children probably accounts for the accumulation of clots within the uterus and the consequent painful contractions necessary in order to expel them. Care to have the uterus well emptied by means of massage or by the use of ergot if necessary will diminish the number and severity of these pains. In rare instances an anodyne may be necessary in order to premit of necessary sleep and rest. If so, morphine, in doses as small as possible is the best drug, although many use codeine, pyramidon, or opium itself.

The care of the puerperal patient must include as close an observation as possible, especially during the first three or four days. Therefore the temperature, pulse and respiration should be noted several times a day by the nurse or some competent person who can be instructed in such observations. It is always best to have every occurrence written in the nurse's notes so that the obstetrician may ascertain the condition of the patient without being obliged to ask questions which may alarm her. The amount and character of the lochial discharges, the amount and time of the passage of urine or feces, the times of putting the child to the breast and such other routine procedures should all be noted for the information of the attendant.

During the first two or three days of the puerperium the patient actually needs little or no food. The rapid involution of the uterus and genital organs in general, the absorption of fat from the body will furnish enough nutrition, even to make up for the loss of blood. For two or three days liquid food may be given as the patient requests, because there has been a large loss of water during labor and that must be made up by ingestion of water. In most normal cases, however, the appetite of the patient may be a guide as to when to begin semi-solid and solid food. It is poor practice to feed the woman for days or weeks upon a sloppy diet and then expect her to gain strength and manufacture food for the nursing infant. By the middle of the first week a regular diet may be given. This is especially well born by women who have exercised in some such manner as already indicated and who get up from bed early. The diet, even when regular in amount and kind, should be administered in several small meals rather than in a few large ones.

The excretions should be carefully watched. Often the urine will be scanty for twelve or twenty-four hours because of the loss of water from the body during the exertions and sweating of labor and because of the loss of blood. Every effort should be made to obtain a natural evacuation of the bladder rather than to resort to catheterization with its attendant dangers of cystitis. Often pouring warm aseptic water gently over the pubes and down over the genital region will cause spontaneous urination. The woman should even be propped up into a sitting posture on the bedpan or vessel in order to encourage voluntary passage of urine. One should not make the mistake of thinking that the long delayed urination has emptied the bladder when, after some hours of retention, the urine begins again to dribble. This phenomenon is often the result of an overflowing bladder. Percussion over the pubes will show a flat area of great extent representing the dilated bladder. In such a case one is forced to use the catheter in order to empty the organ, after which he should make every attempt to get spontaneous micturition before again resorting to the catheter. Let us remember that each introduction of a foreign body into the female bladder is dangerous. The

passing of a catheter should never be left to unskilled hands. If there is no trained nurse or other nurse who can be trusted to have an aseptic conscience the obstetrician must use the instrument himself.

The bowels should move on the second or at least on the third day. If a laxative is needed nothing is better for the purpose than castor oil, which prevents the formation of gas in the bowels and is said to influence favorably the secretion of milk. Salts tend to withdraw from the blood water which is needed for the milk. Besides, salts usually tend to cause considerable flatus. If the patient is allowed to exercise or to get up early she will be less likely to require laxatives again than if she lies for days and weeks on her back. If the bowels do not move spontaneously after the first time, it is usually better to empty them by means of a warm water enema during the first week than to administer cascara or other laxatives which are apt to cause diarrhea in the baby.

The obstetric binder for the abdomen has been the subject for much discussion. It can do harm if too tight by displacing pelvic organs, hindering circulation and by preventing the return of tone to the abdominal muscles. If only snugly fitted it is usually a source of comfort to the woman and can safely be allowed. It serves well as a foundation to which to fasten the necessary perineal bandage to retain the vulvar pads.

The breasts are organs whose importance greatly enhances with the coming of the child. The nipples should be cleaned with sterile water or sterile boric acid solution before and after each nursing and during the first weeks should be covered between nursings by a piece of sterile cotton or gauze. If there seems to be a tendency to crack a little sterile cacao butter will often correct that. It is my practice to put the child to the breast a few hours after birth if both child and mother are awake. The action of suction stimulates the establishment of lactation and can only do harm if persisted in too long or too often repeated. The colostrum which is obtained by the baby's first efforts is of use to it. For the first two or three days once in four to six hours is often enough to put the child to the breast; after the milk begins to flow freely it is my practice to allow feeding every three hours until the end of the second week, then every two and one-half to three hours thereafter. The child should be made to attend to business during nursing and should be prevented from going to sleep and attacking the nipple again at fitful intervals.

When the milk secretion is scanty, there are many drugs recommended for increasing it, and none are reliable. The main point in forcing milk is feeding the mother. This is well known in the case of cows and applies also to women. Good, easily digested food, plenty of water, absence of stimulants and condiments, freedom from worry and care, quiet and peace of body and mind, will all act as galactogogues better than any drugs with which I am familiar. Sometimes the digestion must be aided in cases of dyspepsia, sometimes tonics are needed because of anemia or debility, sometimes concentrated foods are indicated. Poultices of castor-bean leaves have been recommended, various proprietary remedies are extolled, but the practitioner would do better to study how to keep up the nutrition of his patient by food. Gentle massage of the breasts and weak faradic electricity seem to be useful adjuncts in many instances.

Polygalactia seldom calls for treatment except when the child is dead or there is some other valid reason for

not nursing and it is desired to dry up the breasts. In drying up the breasts the main point is reduction of the intake of water and increase of its outflow. Therefore diuretics and saline laxatives with a diminuition of the ingestion of fluids to the utmost extent compatible with comfort are indicated. Snug and even bandaging of the breasts also helps the drying-up process. Iodide of potassium is recommended by many for the purpose.

Before leaving the obstetric case and discharging himself from further care of the patient, the obstetrician should make a careful examination of the woman. This examination should include the general appearance, the chest, the abdomen, the urine, the blood for hemoglobin at least, and the condition of the pelvic organs. Bimanual examination will reveal whether the pelvic floor is intact, whether the involution of the uterus is progressing rightly for the period of the puerperium when the examination is made. If any abnormalities are noticed some responsible member of the patient's family should be notified and whatever treatment seems indicated should be instituted. It is far better for the reputation of the physician that he discover and announce any lesions at the time than to have symptoms appear afterwards and to have somebody else, perhaps an enemy, detect them and tell their cause.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D M. E., Lima, Ohio

X-RAY IN GYNECOLOGIC TERAPY

Dr. E. H. Skinner, of Kansas City (Interstate Medical Journal, November), reviews the recent rather extensive literature on the X-ray in gynecologic therapy, especially in the treatment of uterine myoma. The treatment in such cases is based upon the fact that the X-ray can produce ovarian atrophy and the artificial menopause incident thereto. Albres-Schoenberg states that we may expect certain definite changes as follows: (1) Cessation of menstruation, producing a reduction in the myoma mass and the disappearance of the menstrual or intermenstrual bleeding accompanying myomas, together with relief from pain; (2) the relief of post-climacteric bleding; (3) the lessening or cure of conditions in the post-climacteric period depending upon myomas without bleeding. It seems that the menstrual flow following the first exposure may be quite profuse, and this treatment is therefore not advisable in very anemic women with less than 40 per cent hemoglobin. A very important matter is the proper technique and dosage of the ray to be employed, and Skinner reviews in detail the methods employed by Pfahler, Albers, Schoenberg, and Bordier to guide them in the proper therapy.

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ELECTRIFICATION IN MEDICINE AND SURGERY.

By C. A. Bryce, A. M., M. D., M. E., Richmond, Va.

To the man who buys a faradic machine and whose therapeutic applications of the same consist in the indiscriminate completion of the circuit through two sponge electrodes here and there on the body of the patient, electrification has reached its climax for potency, and the further consideration of the subject is actually too stale to interest him.

One great reason why so little real good is being accomplished with electrification at the hands of the profes-

sion today is because about nine out of ten physicians have gone no further than the bungler we have described in or first paragraph.

The makers of cheap batteries are trying to sell goods as fast as possible, and the average physician is trying to buy as cheaply as possible and appear to be up with other progressive men who do really study and equip themselves, and thus it is that cheap instruments get into the hands of cheap and ignorant men, who always succeed in doing harm to the patient and to the cause of this branch of our science.

Unless a man thoroughly understands electrification it is dangerous practice for him to engage in, and he should be honest enough not to tamper with the health of a patient or rob him of the fees made on the line of charlatanry.

We wish to give our readers a very brief synopsis of some of the things that can be most certainly accomplished under the use of the current in skillful hands, and trust that it may start them to studying and practicing in the right manner.

In the hands of the medical practician who makes no pretense of practicing surgery, the galvanic and faradic currents can both be used to great advantage as purely therapeutic agents. In this manner we are able to stimulate or decrease the blood supply to parts, and consequently treat a very large number of ailments dependent upon such conditions. We can improve nutrition and blood supply in organs, and stimulate muscular activity and metabolism. We can relieve pain, restore lost functions, and treat hysteria, functional paralysis, neuralgia, sciatica, rheumatism, chorea, and a number of nervous and muscular troubles with galvanic and induced currents. The absorption and dispersion of benign and malignant tumors in dangerous and inaccessible localities may be accomplished with the continuous current alone or aided by phoric applications; while the ready placing of remedies into the tissues at any point wanted, by electrical dispersion, is one of the very strong points in favor of electrical medication at the hands of the general practician.

The electrical surgeon in addition to the above can successfully treat and cure strictures of all kinds and at all of the usual seats of same in the human body, and can approach malignant and other neoplasms and growths with better prospects of cure than in any other manner known to the profession at this time. With electrolysis, phoresis, faradic stimulation, galvanocautery, and X-ray work, medicine and surgery have recived more benefit than from all the drug discoveries made in the past hundred years, and the practician of today who is not isformed on these topics well enough to least to know when they should be used, is not properly educated for his professional work.

ELECTRO-THERAPEUTIC PRACTICE.

By Omar T. Cruikshank, M. D., M. E., Carnegie, Pa.

Returning from a trip devoted to study abroad, in September, 1902, I found my grandfather suffering severely with articular rheumatism in both hands. I gave him medication for two months during which time the trouble grew worse. Then I treated him with the commercial dynamo sinusoidal mode from the street wire, the mode being the 110 volt, 60 cycle, A. C. with a water rheostat, and one 16 c. p. carbon lamp, in series on each wire. I placed each hand in a large dish filled with salt water, and turned on the mode to the point of limit of toleration, and continued the treatment for thirty minutes daily, with a complete cure in

two months, which has remained permanent until now, (May 22, 1912). He is now at the age of ninety, and entirely free from the old trouble.

Case No. 2.

Mr. B., aged 48, came to the office in April, 1903, with a typical case of rheumatoid arthritis in both hands of four months standing. His case had been diagnosed by two other physicians. I gave him daily treatments with the X-ray for two months, until the skin was nicely tanned, using a twenty-four plate static machine as generator, which resulted in complete relief. I saw him in March, 1912, when both hands were in good condition, and he said that he had been working continually ever since his treatment, working at his trade of brick-layng.

Case No. 3.

Mr. B., aged 21, a cutting machine operator in a coal mine, came to me in May, 1903, with pulmonary tuberculosis, with severe hemorrhages, with abundant tubercle bacilli in the sputum. I began treating him with ozone, using a large glass cylinder delivering a double spray, from the static machine, the air being forced through by large globe nebulizer. This treatment continued for two hours daily, over a period of three months resulted in a complete cure, from which there has been no relapse, from that time to the present, as I saw him alive and well, in April, 1912.

Case No. 4.

Mr. H., aged 24, carpenter, was brought to my office by Dr. J. L. McKnight, in January, 1905, requiring to be helped into the office, and suffering greatly with lumbago. I gave him a treatment of the X-ray, from a fairly hard tube, energized by a 12 inch coil, with an exposure of thirty minutes, following this by a thirty minute treatment with the high frequency iodine cataphoric. Then I followed this with a thirty minute exposure from a fifteen inch reflecting lamp, using one 100 c. p. and four 50 c. p. lamps. He went to work the next day and has never been troubled with lumbago since, from that time until I last met him, May 18, 1912.

I can report many more cases, and will do so later. These are not exceptional or unusual, and anyone may duplicate these results, with the apparatus and the proper "know-how."

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A PHYSICIAN'S DREAM.

The Doctor sat in his office,
On his face a vacant stare,
And his pipe in the twilight was gleaming
There were no patients there.

And his thoughts they carried him backward
To the days of his study and cram
With examinations closely approaching
And the ponies that also had ran.

He had dreams of the lost Atlantis
His visions of wealth arose,
If he only could get a few patients,
He might have a new suit of clothes.

Then an automobile came steaming
Into his fast speeding dream
And the world seemed a bed of roses
With nothing to scatter the sheen.

His trials and tribulations
Had seemingly faded away
And all of his charity cases
Had decided to come in and pay.

And just as he was receiving
A bill long forgotten about,
A ring at the doorbell aroused him,
He awoke and his pipe was out.

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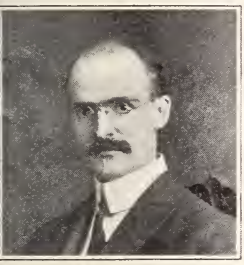
H. C. Bennett, M. D., M. E., Lima, Ohio.—I wish to compliment you upon your mail course of lessons in electrotherapeutics, which is certainly good. Raymond L. Wadhams, M. D., Wilkes-Barre, Pa.

SYMPTOMS and DIAGNOSIS of APPENDICITIS

By ALFRED de ROULET, M. S., M. D.
Chicago, Illinois



In a well marked case of appendicitis the diagnosis should be made without difficulty. The presence of the appendiceal syndrome, —sudden onset of severe abdominal pain, with or without nausea; rigidity of the right rectus muscle; marked tenderness over the region of the appendix; and fever, —is sufficient to establish the diagnosis.

Pain is the initial symptom. At first it is paroxysmal and colicky and not infrequently mistaken for an acute indigestion. This pain is diffuse and probably most severe above and around the umbilicus but soon becomes localized in the right iliac fossa. It may radiate along the groin or down the right leg. It is increased by pressure, coughing or movement. It is somewhat relieved by absolute rest in any position allowing relaxation of the psoas muscle. Frequently the pain is accompanied by nausea and vomiting which tends to subside, in favorable cases, as the pain becomes localized.

Tenderness is invariably present though in varying degrees of severity, anl is usually most marked midway between the umbilicus and the right anterior iliac spine.

Rigidity of the right rectus is a very characteristic symptom, it is rarely absent, it appears early and because of its one-sided character is easily recognized.

Fever ranging from 100 to 103 is usually present but bears little direct relation to the severity of the attack. A sudden fall in temperature to normal or below, without a corresponding improvement in the concomitant symptoms, is not a favorable sign but rather an indication of perforation of gangrene of the appendix.

In the majority of cases obstinate constipation is present and this constipation combined with nausea and vomiting occasionally leads to an erroneous diagnosis of intestinal obstruction. An initial diarrhoea is occasionally observed in unfavorable cases.

Tumefaction may be present after the first 24 or 48 hours though it is often absent. In many cases owing to the intense pain and excessive tendersess and rigidity of the abdominal wall it is often impossible to determine the existence of tumor. When present and palpable it may be moderately firm or doughy, ill defined and more or less obscured by the acompanying tenderness and rigidity.

The presence or absence of leucocytosis is of slight diagnostic importance, but, studied in connection with the relative percentage of polymorphonuclear cells, it is a fair index of the presence and virulence of the infection and the strength of the patient's resistance. In an adult, pus or gangrene is rarely present when the polymorphonuclear percentage is below 80, between 80 and 85 either is likely to be present and over 85 one or the other is invariably present. A high leucocytosis always indicates strong resistance.

In many cases it becomes necessary to differentiate appendicitis from a number of conditions for which it may be confused as typhoid fever, biliary colic, renal colic, pelvic infections, etc.

Typhoid fever and appendicitis are easily distinguished.

In appendicitis the abrupt onset in a person previously well, the nausea and vomiting, the rigidity of the right rectus and the tenderness in the iliac

fossa form a symptom complex almost pathognomonic. In typhoid, on the contrary, the onset is slow and insidi ous, attended by lassitude, headache, epistaxis, diarrhoea, a characteristic temperature, relaxed abdominal walls, slight pain and diffused tenderness.

With biliary colic and appendicitis differentiation is often difficult. In both the onset is sudden, the pain agonizing and accompanied by nausea and vomiting. The character and location of the pain in biliary colic dif-

Puinary Carcinoma of Appendix

vere and lacks the undulating quality charactertistic of appendiceal pain. It tends to localize in the vicinity of the gall bladder though it may radiate from the right costal margin toward the umbilicus.

Biliary colic often begins with a is usually more continuous and less sefers from that of apendicitis in that it chill while fever is usually absent. The often gives a history of previous attacks. When gall stones are found in the stools the diagnosis is established.

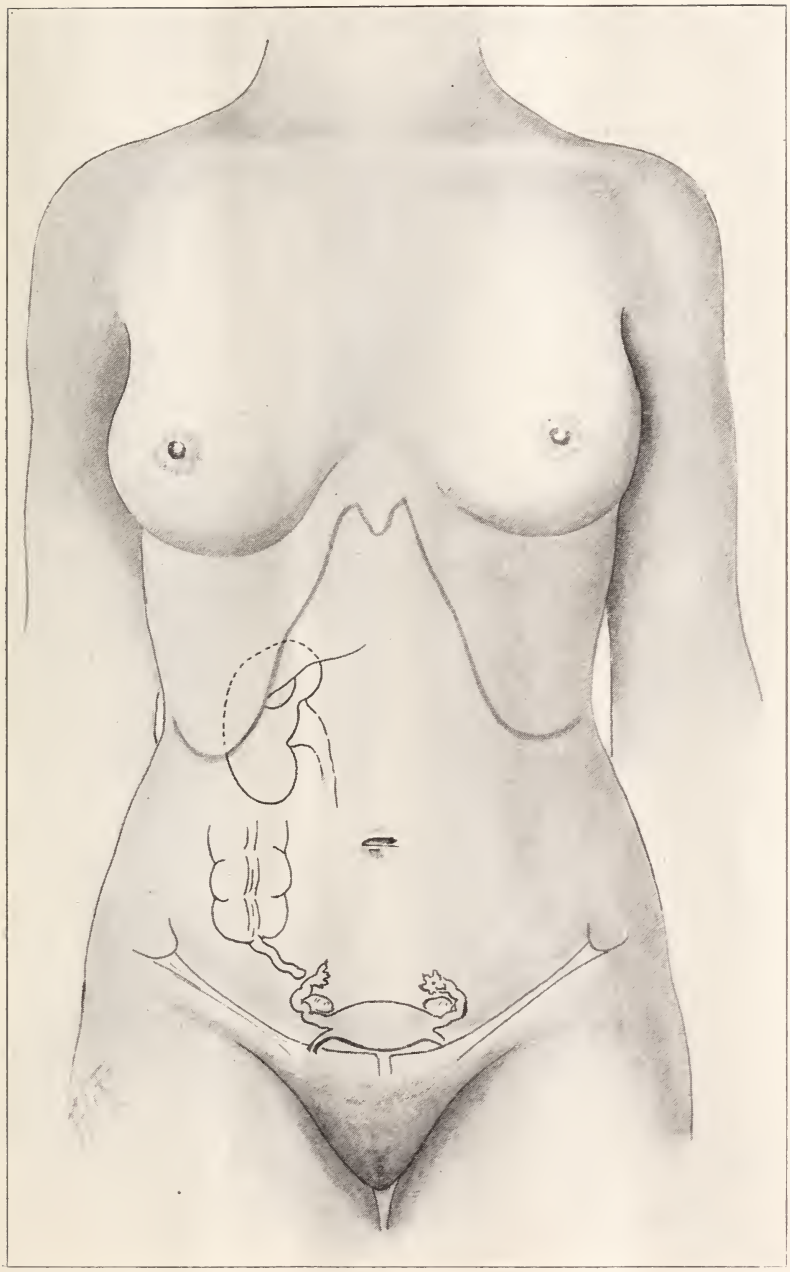
Renal colic should not be confused with appendicitis even in the early stages. This condition begins usually with a rigor followed by excruciating lumbar pain, which radiates along the course of the ureter. There is no fever, no tumor and no localized tenderness. The pain is slightly alleviated by firm pressure over the painful area and greatly relieved by urination. Haematura is often present.

In abscess of the kidney tenderness is elicited on pressure over the kidney. The pain is most severe in the lumbar region and radiates down into the groin. Vesical irritability is marked and the urine, which is diminished in quantity, contains both pus and blood.

Perinephritic abscess cannot be positively differentiated previous to operation.

Occasionally in floating kidney the ureter may become twisted, in which case the pain, nausea and swelling might be mistaken for appendicitis. The outline and mobility of the tumor, the occasional hematuria, the absence of fever and the sudden relief of symptohs due to spontaneous untwisting of the ureter should clear the diagnosis.

In women, pyosalpinx and ovarian abscess may easily be confused with appendicitis. While the conditions present points of similarity there are charactertistic differences, which in connection with the case history should prevent mistakes. Abdominal pain associated with fever nausea and vomiting are common to tubal, ovarian and appendiceal inflammations. In appendicitis the pain is most intense over McBurney's point. In tubo-ovarian inflammations the pain is located more deeply in the pelvis immediately above Poupart's ligament. Rigidity of the right rectus is marked in appendicitis, but is less distinct or even absent in pelvic inflammations. With pyosalpinx there is often a thick purulent discharge from the vagina which may exist several days before the onset of the pelvic pain. On examination



a distinct swelling is rarely found in the early stages of any of these conditions. Later, there may be a decided induration or thickening of the tissues. In tubal and ovarian inflammations this swelling is situated close to and continuous with the uterus while in appendicitis it is higher up in the iliac fossa. A chronic salpingitis or oophoritis may be and not infrequently is associated with chronic appendicitis.

Extra-uterne pregnancy usually gives a fairly characteristic history of menstrual abnormality, morning nausea, mammary engorgement and colicky pains associated with faintness. A severe pain in the lower portion of the recto-vaginal septum is often present. Before rupture, physical examination may show a somewhat rounded mass to one side of the uterus. Rupture of the tube is characterized by a sudden agonizing pain followed immediately by collapse with all the symptoms of severe internal haemorrhage. The differentation between extra-uterine pregnancy and appendicitis should not be difficult if the possibility of the occurrence of the former condition is not overlooked and a fair history of the case can be obtained.

Strangulated tumor due to torsion of the pedicle is sometimes mistaken for appendicitis, a mistake the more easily made as only the smaller tumors, particularly dermoids are prone to this accident.

The pain come on suddenly, is continuous and diffused over the entire lower abdomen. Nausea and vomiting are usually present. In the early stages it is usually possible, on examination, to distinguish the tense, sharply defined tumor. Ordinarily fluctuation cannot be elicited and it is doubtful if it is advisable to make the effort. In the later stages, when peritonitis has supervened, differential diagnosis is impossible without operation.

Cancer of the appendix is rarely encountered. It presents on examination a small, irregularly rounded mass deep in the iliac fossa, and gives rise to practically the same symptoms as characterize a chronic appendicitis.

In women painful menstruation may so completely mask a chronic appendicitis that its existence is never suspected, yet these patients present a fairly typical group of symptoms. The pain usually precedes the flow 2 or 3 days, reaches its height about the time the flow appears and subsides when the flow has reached its maximum. The degree of suffering varies in different women and in the same woman at different times. Gastro-intestinal symptoms are often present and occasionally more or less distinct symptoms of appendicitis develope in the interval. The character and location of the pain together with the accompanying tenderness and nausea are strongly suggestive if not actually diagnostic. The onset is sudden, the pain paroxysmal and transient and is localized low down in the right iliac fossa. Tenderness is noticeable over the right iliac region but is not limited to the area overlying McBurney's point. As the menstrual flow subsides the tenderness disappears and is entirely absent durng the intermenstrual interval.

♣ ♣ ♣

Three faces the physitian hath:
First as an angel he,
When he is sought: next when he helpes,
A god he seems to be:
And last of all, when he hath made
The sicke, disabled well:
And asks his guerdon, then he seems
An oughly fiend of Hell.

An epigram of Timothy Kendall, A. D., 1577.

♣ ♣ ♣

H. C. Bennett, M. D., M. E., Lima, Ohio.—I wish to compliment you upon your mail course of lessons in electrotherapeutics, which is certainly good. Raymond L. Wadhams, M. D., Wilkes-Barre, Pa.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.,
Janesville, Wis.

THE NEWER OPERATIONS IN GLAUCOMA.

By John E. Weeks, M. D., New York City.

Ever since the epoch-making discovery of von Graefe, that iridectomy served, in many cases, to lessen the tension of the eyeball, and his application of the operation to the cure of glaucoma in 1856, it has been the observation of ophthalmologists that iridectomy was effective only in a portion of the cases, and effort has constantly been made to discover methods that would give desirable results in all cases. It has been observed that the classical iridectomy of von Graefe has, on the whole, been the best general operation, that in nearly all cases of acute glaucoma it sufficed. In chronic cases which because of entanglement of iris or some other tissue, or some fault of performisg the operation, a cystoid scar formed, more lasting beneficial results wer obtained than from iridectomy.

It was found that paracentesis of the anterior chamber will back in the iris angle, that posterior sclerotomy, and that partial detachment of the ciliary body brought about a more or less lasting lowering of the intravacular tension. These observations enlisted the inventive interest of many ophthalmic surgeons and brought out a number of procedures more or less well adapted for the accomplishment of the purpose desired. All of the operative procedures have for their object the reduction of the intra-ocular tension to the normal and the maintenance of the tension at, or below the point. On examining the literature of this subject, it becomes evident that we can conveniently include nearly all the operations for glaucoma, other than the classical iridectomy, under the term, "the newer operations for glaucoma," since all but a very few have been brought forward in recent years.

The direct results of the forms of surgical intervention employed, whether so understood by the projectors of the operations or not, may be grouped as follows:

1st. To remove a portion of the vitreous body, or to permit the aqueous to escape..

2nd. To form a permanent communication between the aqueous chamber and the perichorioidal lymph space.

3rd. To form a permanent artificial avenue for filtration from the anterior chamber to the exterior of the eyeball.

a. By the formation of a cystoid sear with incarceration of the iris or other tissue.

b. By the formation of a filtering cicatrix without incarceration.

4th. To so influence the secretion into the eye that an excess will not occur.

5th. To relieve pain by cutting off the sensory nerve supply to the eyeball.

Under the first division may be placed:

1. Posterior sclerectomy.
2. Trephining back of the ciliary zone.
3. Sclero-ciliotomy (Hancock).

4. Paracentesis of the anterior chamber.

5. Anterior sclerotomy (de Wecker).

Under the second:

1. Cyclodialysis (Hiene).
2. Sclero-ciliotomy.
3. De Vincentiis' operation.
4. Sclero-choriotomy (Querenghi).

Under the third:

1. Fistulous cystoid cicatrix.
2. Anterior sclerotomy.
3. Filtering cicatrix.
4. Trephining (Holth, Major Elliott, Virhoeff, Fergus).

To the four belong:

1. Section of the cervical sympathetic (Abadie).
2. Resection of the superior cervical ganglion of the sympathetic (Jonnesco).

To the fifth:

1. Stretching of the supra-trochlear nerve (Bailey).
2. Laceration of the infra-trochlear nerve (Badal).
3. Optic ciliary neurectomy.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Janesville, Wis.

GERMAN MEASLES.

This disease has been called Roetheln, Rubeola Northa, Rubella and Epidemic Roseola. It is an acute contagious disease resembling both measles and scarlet fever, but differing from them in the characteristic symptoms, as respects, incubation, eruption and sequelae. Immunity follows a single attack, but of course from this disease only. There is a long period of incubation, usually from ten to twenty days.

Prior to the appearance of the eruption there may be some malaise and sometimes a sore throat with some fever, while in many cases these are not noted. Usually the child is not known to be sick in any way till the eruption appears.

The eruption is not uniform, but may simulate either measles or scarlet fever and present the other symptoms of the disease that it most closely resembles. The eruption begins on the face and extends rapidly over the entire body and often fades away in from two to four days, more often the former number. In the absence of a known and carefully observed epidemic, it is not safe to establish a diagnosis, because there are so many cases of mild attacks of other diseases mentioned that a serious mistake may be made.

Slight desquamation usually follows and all cases should be quarantined, that no mistake may be made and to protect the public from exposure to even this disease. It is not as contagious as some of the other diseases mentioned and has no serious sequalae, apparently, though the diminished resistance to the attacks of some other diseased condition should be reckoned with. While the desquamation is not complete or extensive enough to greatly increase the liability to taking cold, because of the destruction of the outer layer of the skin and the congestion of the skin is not so severe as to greatly endanger the normal action of the kidneys, still these possibilities should be in our minds. The post-cervical glands are usually enlarged and this is considered quite a diagnostic sign by some writers and observers. During the first day small red points may be observed on the Uvulva and are an aid to diagnosis to some extent.

—J. V. S.

MISCELLANEOUS

DID YOU CLEAN HOUSE?

By George L. Servoss, M. D., Gardnerville, Nevada.

What is the condition of your patients right now, at this precise moment? Did you clean house this spring, or did you let a lot of dirty bowels run along into the summer months without any preparation to meet the numerous assaults usually made upon such organs during the heated term?

If you did not clean the houses of your patients earlier in the season you should take steps to do so, and at once. Don't wait until they are really ill. If any of them are in "the dumps" bring them out of that condition as soon as you possibly can. A dirty bowel, in nine cases out of ten, is to blame for "the dumps," and if you will get ready those little doses of calomel and podophyllin, followed by a saline, you will see a remarkable change in the facial aspect of your patient, even though he may not be really ill. Don't stop with just a simple clearing out of the gut, but follow this up with a course of the sulphocarbolates for a few days and you will not have a bilious patient any longer. Get all of your chronics together and give them the above course of treatment and see what will happen. You may lose a part of your "meal ticket" through such action, but it will be all regained in the future, as your reputation is based upon the little things you do, more than the larger ones.

Don't let the houses of your patients get dirty for a single moment. A dose of a saline, one or twice a week, will serve to clean house pretty thoroughly, as it will remove much of the decomposed material from the bowel and in this manner overcome any tendency to absorption of toxins from this very important organ.

Don't forget that copper arsenite is a mighty good house cleanser one which should be used when you are fearful that you see an impending case of cholera infantum, or in fact, in cases of intestinal irritation in the grown ups. It will do wonders if properly and thoroughly adminstered. We all know that zinc is a marked astringent and we should remember that the sulphocarbolate salt of that metal is a standby in the matter of house cleaning. Not only does it act to astringe the bowel, but incidentally it is a mighty fine intestinal antiseptic.

Don't give your diarrhea patients a lot of dope that will lock their bowels up so tight that it will take a cork screw to start them or a derrick to move them. If you do, you will be making a dirty house of things. Better increase the discharge for the time being with your calomel, podophyllin and saline. That will wash out the "leetle bugs" very effectively, and if you follow up with a few doses of the sulphocarbolates (the zinc salt, it the diarrhea is extremely marked) you will be surprised to meet formed stools a few hours later.

Don't let your patients get away from you at this time of the year, as a "stitch in time" will do wonders in keeping them from being "real sick." If you succeed in keeping their houses clean during the summer mnoths there will be fewer cases of typhoid for you to treat this fall. A clean bowel, kept clean is a mighty poor abidng place for the typhoid "bug." If your patron's bowel has been kept clean during the spring and summer months and he does not happen to pick up typhoid later, nine times out of ten, he will have just a slight "attack" as he will be in such good condition as to be able to combat the invasion with a will.

Not only will this house cleaning during the spring and summer months overcome a tendency to the ills of the

heated season, but you will find that your people are able to pass through the winter months without succumbing to any of the ailments peculiar to the colder periods of the year.

Perhaps the fellow who comes to you in "the dumps" has absorbed a lot of toxins from his bowel. Don't overlook the importance of knowing just what his condition really is. This will mean that you will have to bring that laboratory of yours in play for a few minutes. See if his urine is not way above the normal 20° to 30° acidity. Perhaps it will be below the minimum normal. In either case you will know that elimination is not going ahead as it should. Perhaps you will find indican in addition to hyperacidity. In case you should find too much acid get busy with your sodium and xanthoxylin compound and add that to the other house cleansers. Don't be afraid to push this right along until the normal degree of acidity is reached. Even when there is subacidity, this combination will do wonders in some cases. It will start things 'moving," both by way of the bowel and kidneys.

Don't go after things in a half-hearted manner when you do a job of house cleaning. Be sure you have gotten rid of all the dirt. Dust out the corners and "sweep under the bed" to the best of your ability. It will undoubtedly do away with a lot of your usual prolonged cases, but that won't hurt you any, as the achieving a reputation for keeping your patients well will add to your list of patrons and numbers will more than make up for the shortened duration of individual cases.

We have said clean house and keep it clean. Don't, however, take it that we mean that you should continually dope your patient with drastic cathartics. Nay! Nay!. Just a mild saline, just enough to keep things clean, in conjunction with the sulphocarbolates, and no more, at frequent intervals. You don't want to wear out the patience of the gut, and you surely will if you whip and tire it continuously with a lot of drastic drugs. If you should do this the bowel will "lie down" and "quit." Keep it active, but not too active.

If you keep your patient's house clean you will not have to be continually telling he must not eat that, or this, or the other thing. He will have a bowel which will be able to handle almost anything, if it is reasonably clean and fit to eat. Green apples won't hurt him much under such circumstances, and he need not fear appendix complications after blackberries, if he has a clean gut primarily. He will be "fit" and able to "stand up" against any sort of reasonable diet.

If you keep the bowels of your babies clean and feed them clean milk you will not have to worry about cholera infantum, or any other summer complaint and they will go through the "second summer" with "colors flying." You can even wean them, if you use your calomel, salines and sulphocarbolates judiciously, and not worry over the outcome of such procedure.

You will be surprised to see what a change will come over your entire practice, if you keep all of your patients with clean houses, even during the winter months. There will be fewer "real bad cases" at all times of the year.

This matter of house cleaning is so simple that he who overlooks it is guilty of laziness, if nothing worse. Try it on yourself and see how good you feel afterwards. There is nothing like it to "brush the cobwebs" away.

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H. C. Bennett, M. D., M. E., Lima, Ohio—Your lessons in electro-therapeutics are good; are all right; just what every M. D. who intends to use electrification needs. C. A. Button, Holland, N. Y.

ABORTION CASES.

By W. H. Tucker, M. D. Eldorado, O.

Mrs. X., a blond, slender, age twenty-eight, a bride of two weeks. Considered a model young woman, clerk in general store before marriage.

Previous history would faint at the sight of blood due to an injury on others, had rheumatism two years before, no complications, subject to occasional attacks of cystitis.

She suffered from an attack of cystitis shortly after being married and having a sample package of kidney pills tried to treat herself. She came to my office, and said she had taken some kidney pills which had caused her urine to become blue and that she was passing but little urine, and it was causing her much pain on urination and since she had run out of pills the urine was bloody. Temperature 102, pulse 120.

I prescribed for her, and sent her home and to bed, and when I called the following day I found her temperature 104, pulse 160. She had a chill during the night, pain over the apex of left lung, breathing difficult and hurried. Vomiting, tenderness over stomach and right tube, moaning and throwing herself about the bed.

Primary areole around the nipples with young follicles largely developed. I asked her how long she had been pregnant and what she did and had taken to produce an abortion. She denied being pregnant and said she had menstrated every month; but under a solemn promise not to reveal her condition to anyone she told me that her husband had coition with her several times before they were married but she absolutely refused to tell me what she had taken or how she had infected herself. Bowels had not moved in six days. I commenced treatment by thorough elimination magnesium sulphat, castor oil and enemas which cleaned out the intestinal tract. I secured a few ounces of urine for analysis and it contained twelve per cent albumen by volume and casts. Vomiting continued until her death. The urine diminished in quantity and she passed only four ounces in twenty-four hours the third day.

On the fourth day she told me she had commenced to menstrate and was passing small clots of blood with much pain and she aborted. I called council but owing to her serious condition we did not feel justified in doing a curettment under an anesthetic; but I used hot saline intrauterine douches which brought away threads of placental tissue and clots of blood and gave her much relief. I continued giving saline enemas and on the ninth day she passed three pints of urine in twelve hours which contaned albumen but no casts or blood. Morning temperature normal the eleventh day, evening temperature 101. I now saturated her with calcium sulphide and temperature became normal the fifteenth day she retained but little liquid nourishment, pulse continued rapid, I asked for a trained nurse which was refused, and I insisted on the patient being bathed, fed, and medicines given more regular and was told my services were no longer required, and on the eighteenth day they called another doctor and she died for him on the twenty-first day. He held an autopsy, invited several other doctors but left me out, and it was decided she died with a cancerous condition of the oesophagus and stomach. I examined the poison register of our druggist but failed to find what she took to cause the abortion and produce the erosion of the oesophagus and stomach which ended in her death, and she carried the secret of her indiscretion to the grave, and I am considered an ignoramus for not diagnosing a cancer of the stomach although she was sick only three weeks. Had I attended the autopsy the secret would have leaked out and the hus-

band would have been condemned by her family, instead of the doctor.

CASE NO. 2.

I was called during the small hours of the night to see Miss I., a modest country girl, brunette, slight build, an illegitimate child age sixteen years and three months, living with her grandparents and obtained the following history. She had pneumonia two years ago. She had been sick to her stomach, vomiting and eating lttle for the past two months.

She had an admirer, a booze fighting farmer, a former admirer of her mother. Age "thirty-eight years." He had called on her during the evening under the influence of liquor and before leaving had attempted to have intercourse with her; but it caused her so much pain he had to desist.

On examination I found her about three months pregnant, extreme tenderness of the right tube which was much swollen. Uterus enlarged to the third month of pregnancy. Vagina very sensitive and containing pus which when mounted and stained revealed gonococci.

She complained of labor pains and was passing some blood from the vagina. Temperature 103, pulse 120.

Diagnosis gonorrhea with infection of the right tube and threatened abortion. I controlled the pains with morphine and atrophine and commenced treatment with thorough elimination. Echinacea and calcium sulphide to saturation. Hot carbolic acid douches, using three gallons at a sitting with a temperature of 126 F. Left her on a liquid diet and after eighteen days temperature became normal and I allowed her to be up about the house but she had not aborted and the right tube was still very tender on palpation.

I was called again after six days as she was suffering intense pain and passing large clots of blood with an offensive odor. Temperature 101, pulse 120. I learned that the following day after being up about the house she went to the garden and gathered a large quantity of tansy and made a strong tea which she drunk for five days. She had now aborted and I called council who gave an anesthetic and I did a curettment, removing the remaining products of a conception. She suffered intense pain from the right tube and leg for three days. Urine contained albumen but no casts following the abortion.

The temperature became normal after three days following the curett ment and I allowed her to sit up and dress on the tenth day. She is much emaciated, and has a very painful tube at times, a sad but wiser girl.

How long shall we remain silent and allow the guilty to go unpunished, to ruin and infect other young girls and women?

CASES OF INFANTILE OBESITY.

By Drs. Robert Ashton and Grace M. N. Ashton, New York City.

On page 141 of "The Wisconsin Medical Recorder" is found the excellent and highly interesting report of a case of abnormal obesity in a Missouri girl infant and the author asks—"Can any reader give any causes for this abnormal amount of adipose tissue?" I have in my medical library a book entitled "Anomalies and Curiosities of Medicine" by George M. Gould, M. D., and Walter L. Pyle, M. D., published by W. B. Saunders Co., Philadelphia, Penn. Commencing on page 352 of the volume mentioned the subject is continued over half a dozen pages devoted to this condition, but a careful perusal shows no etiology, set forth by the authors, nevertheless I will quote many remarkable instances mentioned therein, for the benefit of the doctors and other subscribers.

The cases of obesity in infancy and childhood are of considerable interest and we sometimes see cases that have been termed examples of "congenital corpulency."

The photograph produced below represents an example of infantile obesity known as the fat infant and "found in Chambers 13 A 134."

There is one instance on record of a girl of four who weighed 256 lbs. Tulpu mentions a girl of 5 years of

age that weighed 150 lbs. and had the strength of a man, he says that the accumulation of fat did not commence until some time after birth. Ebstein reports an instance given to him by Fisher of Moscow, of a child in Pomerania, who at the age of six weighed 137 lbs. and was forty-six inches tall, her girth was forty-six inches and the circumference of her head 24 inches. She was the offspring of ordinary sized parents and lived in poor and sometimes needy circumstances. The child was intelligent and had an animated expression of countenance. Bartholinus mentions a girl of 11 who weighed over 200 lbs. There is an instance recorded in Russia, of a young girl, who weighed nearly 200 lbs. when but 12 years old. Wule, quoted by Ebstein, described a child which died at birth weighing 295 ounces. It was well proportioned and looked like a child three months old, except the enormous development of fatty tissue. The parents were not excessively large and the mother stated that she had had children before of the same proportions.

Grisolles mentions a child, who was so fat at twelve months, that there was constant danger of suffocation, but marvelous to relate, it lost all its obesity when 2½ years old and later was remarkable for its slender figure.

A girl born in Carbon County, Pa., weighed 201 pounds when 9 years old. McNaughton describes Susanna Tripp, who at six years of age weighed 203 lbs. and was 3 feet 6 inches tall and measured 4 feet 2 inches around the waist. Her younger sister Deborah, weighed 119 lbs.; neither of the two weighed over 7 lbs. at birth and both began to grow at the 4th month. On October, 1788, there died at an inn in the city of York, the surprising "Worcestershire Girl" at the age of five. She had an exceedingly beautiful face and was quite active. She was 4 feet in height and larger around the bust and waist; her thigh measured 18 inches and she weighed nearly 200 lbs. In February, 1814, Mr. S. Pauton was married to the only daughter of Thomas Allanty of Yorkshire; although she was but thirteen she weighed 182 lbs. At seven years of age had weighed 98 lbs. Williams mentioned several instances of fat children. The first was a German girl who at birth weighed 13 lbs.; at six months 42 lbs.; at four years 150 lbs.; and at twenty years, 450 lbs. Isaac Butterfield born near Leeds in 1781, weighed 100 lbs. in 1782 and was 3 feet 10 inches tall. There was a child named Everett, ex-

hibited in London in 1780, who at eleven months was 3 feet 9 inches tall and measured around the loins over 3 feet. William Abernethy at the age of thirteen weighed 308 lbs. and measured 57 inches aroun dthe waist. He was 5 feet 6 inches tall. There was a girl of ten who was 4 feet 9 inches high and weighed 175 lbs. Her manners were infantile and her intellectual development was much retarded. She spoke with difficulty in a deep voice; she had a most voracious appetite.

At the meeting of the Physical Society of Vienna in December 4, 1894, there was shown a girl of five and a half who weighed 250 lbs. She was just shedding her first teeth. Owing to the excess of fat on her short limbs she toddled like an infant. There was no tendency to obesity in her family. Up to the eleventh month she was nursed by her mother and subsequently fed on cabbage, milk and vegetable soup. This child who was of Russian descent was said never to perspire.

Cameron describes a child who at birth weighed 14 lbs., at twelve months she weighed 69 lbs. and at seventeen months 98 lbs. She was not weaned until two years old and she then commenced to walk. The parents were not remarkably large. There is an instance of a boy of thirteen and a half who weighed 214 lbs.

Kaester speaks of a child of four who weighed 82 lbs., and Benzenborg noted a child of the same age who weighed 137.

Hildman, quoted by Picat, speaks of an infant three years and ten months who had a girth of 30 inches. Hillaret knew of a child of five which weighed 125 lbs. Botta cites several instances of prematurely stout children. One child died at the age of three weighing 90 lbs., another at the age of five weighed 100 lbs., and a third at the age of two weighed 75 lbs.

It has been chiefly in Great Britain and Holland that the most refarkable instances of obesity have been seen, especially in the former country, colossal weights have been recorded.

In some nations and families obesity is hereditary, and generations come and go without a change in the ordinary conformation of the representatives. In other people slenderness is equally persistent and efforts to overcome this peculiarity of nature are without avail.

From time immemorial fat men and women have been the subject of curiosity and the number who have exhibited themselves is incalculable. Nearly every circus and dime museum has its example and some of the most famous in this way have been able to accumulate fortunes. Athenaeus has written quite a long discourse on persons of note who in the olden times were distinguished for their obesity. He quotes a description of Denve, the tyrant of Heraclea, who was so enormous that he was in constant danger of suffocaton; most of the time he was in a stupor or sleep, a peculiarity of very fat people. His doctors had needles put in the backs of his chairs to keep him from falling asleep when sitting up and thus incurring the danger of suffocation. In the same work Athenaeus speaks of several sovereigns noted for their obesity; among others he says that Ptolemy VII, son of Alexander, was so fat that according to Posidolvious, when he walked he had to be supported on both sides. Nevertheless, when he was excited at a report he would mount the highest couch and would execute with agility his accustomed dance. According to old chronicles the cavaliers at Rome who grew fat were condemned to leave their horses and were placed in retirement. During the Middle Ages according to Guillaume, in his "Vie De Suger," obesity was considered a grace of God.

ACHILLEA MILLEFOLIUM.

By J. A. Burnett, M. D., Marble City, Okla.

The common name of achillea millefolium is yarrow. This is an important remedy and has many uses.

1. It is diaphoetim. Lyle says in hot infusion achillea arouses the capillary circulation. Bill says its influence on the skin is decided relaxing the intiguments and causing free diaphoesis. Dr. Monk considers achillea indicated in any case of fever regardless of its cause when the temperature rises above 100 with skin dry and secretion arrested. He gives it in fevers for its diaphoetic effect one drachm in a pint of warm water at one dose. The patient is snugly tucked in bed and soon begins to perspire freely. As soon as pperspiration is fully established improvement begins to take place. Pain and restlessness are relieved and the temperature rapidly falls to normal and stays there. It produces complete relaxation of the system and increases the action of every eliminating function and especially of the skin. It causes no depression like jaborandilent is always dependable piaphoretic and a safe and certain method for breaking up a fever. One dose is usually sufficient to accomplish that object but occasionally it is necessary to repeat the dose.

Dr. Cole says he has taken achillea and give it in 100 degrees of temperature or over and has never failed to get free diaphoresis without a corresponding depression as one would naturally expect. Dr. John Fern says achillea causes the sudoriferous glands to literally pour out their secretions and with blt little depression. He considers that achillea takes the place of pilocorpine as a diaphoeretic with less unpleasant results and with no danger. In fevers of the sthentic type he uses it when he desires to arouse the skin and says nothing can surpass it. The patient is covered warmly in bed and a hot infusion of the remedy given freely in frequent doses. When the skin begins to soften it is continued but in smaller doses. It is said that in cases of severe fever in the past stage intermittent or bilious that achillea will cause the secretions to pour out so freely as to discolor the bed clothes and that it will take the place of the vapor bath cabinet without exhaustion the patient being comfortable all the time. One writer states that it will about fevers reduce high temperatures in sthentic cases relieve local and general congestion, restore the secretions, open up the sluce gates of the skin and eliminate morbific material. If achillea had no other influence only what has already been mentioned it would occupy a place in practice. Its diaphoretic effect works in harmony with such agents as asclepias, tuberosa, crawley, polemonium, broomweed and many similar agents.

2. Achillea is a tonic. Bell says it is a useful tonic to the venous cetaneous and mucous surfaces. He further says primarily it is a remedy for debility. Lyle says achillea is of much importance as a tonic to the general system, and that it is in cold form useful as a tonic convalescence from fevers, from nervouc prostration, in phitisis and night sweats. Again he states that it is a mild show stimulating, astringent tonic influencing the mucous membrane of the alvine canal and gives favorable results in chronic dysentry and chronic diurrhoea. Lyle further states that it stimulates the appetite and tones the digestive organs. Merch classes achillea as a tonic and gives the dose of the fluid extract from 30 to 60 drops. The tonic prophaties of achillea could be embraced by combining it with such agents as sabbatia, augulares, etc.

3. The action of achillea on the female reproductive organs. One writer states that it is used in amenorshora, dysmenorshaea and that it has been

found useful in all mustard disorders which is a broad assertion to make. Lyle says when it is combined with utririne tonics its usefulness will be felt upon the generative organs and will be serviceable in lencorehoea glut and vaginal laxity. Bill says achillea acts directly on the urinary apparatus and the reproductive organs of the female and that it is employed with advantage in tonic amenoehora and vaginal lencorehoea with vaginal relaxation. Merch classes achillea as an emmenagagne and gives its uses in amenorehoea and uterme diseases. Dr. Frank Webb reports a case of menorehagia accompanied by diarrhoea being cured with two hypodermics of Lloyd's specific achillea in less than 24 hours that had resisted the use of other remedies. He also reports good results from the hypodirmic use of achillea in lencorshoea. For hypodermic use. Dr. Webb prefers the Aqueous achillea made by Boeriche and Runyon in place of Lloyd's specific achillea and says it ih better more certain and absolutely painless.

4. I will now discuss the action of achillea on the urinary organs. Dr. V. L. Bell as above stated says achillea acts directly on the urinary appartus and that it relieves urinary irritation and is a remedy in strangury and urinary suppression. One writer recommends achillea in deficient renal action with vesicle renal or uretheral irritation, acute or chronic Bright's disease and states that it is a very active eliminant when there is deficient kidney action with evidence of ureimic poisoning with or without oedema. Dr. Webb says achillea is indicated in urinary suppression from capillary obstruction rather than from any diseased condition of the kidneys. He reports a case of an old man suffering from urinary suppression that was in the state of coma that had resisted heat and the action of diureties that was relieved in less than two hours by two hypodermics of achillea given half an hour apart. The kidneys began work and his life was saved. Likely apocynun, aralia sambucus, and similar diuretic would be beneficial to combine with achillea in many urinary troubles.

The above four named actions of achillea are probably the most important uses the remedy has. But it has other uses as well which should be known. Achillea is a mild stimulant when much stimulation is needed, it should be combined with myrica, capsicum or ginger. It is an astringentlent, here its action is enhanced by combining it with myrica or Dover's powder and tannic acid in case of diarrhoea. One writer says it exerts a special local action on the pilvic organs and here it could be used with blackhaw and dioscorea. Achillea is used in the low forms of exanthematons fevers and here again could be used with aschpias myrica and ginger, etc. It is recommended in intestinal colic and infantile convulsions which makes it valuable in diseases of children. Lyle mentions achillea as an anstipperiodic. Achillea is a remedy for passive hemorshages from either the lungs kidneys or uturns. It would be inferior to hycopus for such conditions. One writer says that it acts best in strong infusion and that its use must be persisted in.

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HOLY WRIT AND THE DOCTOR.

By D. L. Field, M. D., Jeffersonville, Ind.

"Honor the physician with the honor due unto him, for the uses which you may have of him; for the Lord hath created him. For of the Most High cometh healing and he shall receive honor of the King. The skill of the physician shall lift up his head and in the sight of great men he shall be in great admiration.

"The Lord hath created medicines out

of the earth, and he that is wise, will not abhor them.

"Was not the water made sweet with wood, that the virtue thereof might be made known? And He hath given men skill, that he might be honored in His marvelous works. With such doth He heal man and taketh away their pains. Of such doth the Apothecary make a confection, and in His works there is no end; and from Him is a sweet odor diffused around. My son in thy sickness, be not negligent, but pray unto the Lord and he shall make thee whole. Give a sweet savour and a memorial of fine flour, and make a fat offering; then give place to the physician; for the Lord hath created him. Let him not go from thee, for thou hast need of him. There is a time when, in his hands, there is great success. For they shall also pray unto the Lord, that he would prosper that, which they give for ease and remedy; to prolong life. He that sinneth before his Maker, let him fall into the hands of the physician."

MESMERISM OR HYPNOTISM.

Mesmerism and hypnotism are synonymous terms; and many years ago there was this in "Brougham's Irish Eentertainments": "Mesmerism is a magnificent and imposing hypothesis; resting on a mighty small fact,—a diminutive spark, evolving a volume of smoke, a tiny drop of reality, diluted by an ocean of humbug, a morsel of saponaceous froth, a vast philisophical and intangible column, built up of suppositions and based on an infinitesimal atom of truth. Mesmerism etymologically defined, is an Anglo-German compound, derived from Mess, a botch or blunder; and Merryism, which is synonymous with the English word fun, so that the actual meaning of the term, is a "funny mess."

There is both truth and error in the above quotation. Mesmerism derives its name from Messmer, who was the discoverer of that occult power of one mind becoming "en-raport" with another mind.

The practice of Psycho-Therapeutics is based on the power of one's occult and mysterious influence over another. Persons subject to mesmeric power, by degrees lose their self-control. They are told, in a very positive manner, that they can not raise an arm or move a leg, cannot see anything except as described by the mesmerist. Their condition is one in which their individuality is entirely transferred to another, who controls it. Messmer amassed a great deal of money by using his hypnotic power in claiming to cure disease.

Of course he may have accomplished wonders in cases of purely nervous diseases, but he was such a fakir and soothsayer, that he used his power to persuade people that they were ill and then claimed to have cured them by hypnotism.

Du Maurer's Svengalli, and his mesmeric control of Trilby, in which he made her sing like Jennie Lind and whose vocal triumphs were turned to utter failures when Svengalli was stricken down is an instance of his power. The mysterious psychologic power one exerts over another cannot be thoroughly understood. I have seen a mesmerist mesmerize four men; and they would dig imaginary gold, crouch under a table to escape a shower of missiles, and at the suggestion of the mesmerist would see the most entrancing beauties, and would try to climb a rainbow. While hypnotism is a wonderful power, it is nevertheless a very dangerous practice, as some serious nervous consequences have come from it. I knew an intense young student whose mind was permanently deranged as a result of the repeated influence of hypnotism.

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Reports and items of interest are gladly received.

VOL. 15 AUGUST, 1912 No. 8

THE INCREASED DEMAND FOR HOSPITAL SERVICE.

That there is a very striking demand for hospital service entirely aside from having surgical operations performed, is certainly true and seems to be another logical result of the present complex conditions of the domestic life of our country and of the age. Nearly everywhere hospitals are being enlarged, rebuilt and many new ones built in the larger cities. It is becoming more and more common for maternity cases to go to hospitals, evidently in large cities, because it is more economical to do so. The hospital room and nurse and board charges are usually less than the fees of a nurse and other help, would be in the home. The many well-managed smaller hospitals in the larger cities are affording good care and good rooms at from $15.00 to $25.00 per week, with ordinary nursing, and a special nurse cheaper than they can usually be secured at private homes, their charges also including the board of patient and nurse, no smal item at the present time.

The regular medical attendant is in charge of the case, and if delayed a little neither the patient nor the attending physician is worrying, because the house physician is always at hand for any emergency that may arise and thus much valuable time of the attending physician is saved, and he gets his case and the fee just the same.

This is mentioned as an illustration only and what is said with reference to it is just as applicable to all but the contagious diseases. Like the increased tendency for many city families to take their meals, mostly or entirely at hotels or restaurants, it demonstrates that former plans for living and being cared for and fed, are passing away and other methods taking the place that they formerly occupied, caused undoubtedly, by the difficulty in obtaining help that can be relied on to assist in the homes and the deplorably bad conditions respecting the ability of many of those who are accepting the responsibility of caring for a home as a wife and housekeeper, without any training nor the ability to do so properly. The writer is one, who not only deprecates this, but feels like strongly condemning the tendency for women to enter so many fields of endeavor and industry, which are far more suitable for men to occupy, especially where it is not in any sense a case of actual necessity for them to do so. It would be so much better for each young woman, in any position in the social sphere, to carefully learn the art of home-making and it is an art, beyond any question of a doubt, whether it is at all likely that she will have to put her knowledge into actual practice or not, to any great extent. Such knowledge

is quite essential, even when there is plenty of help in the home and comes into play very nicely in managing the affairs and secures better service, because the ones who are helping know that they can not neglect their work, be wasteful or deceive their employers so readily as otherwise. Then how fortunate and happy is the woman who has the self-reliant feeling that, if she has health and strength to a reasonable degree, that she is not the abject slave to the whims and caprices of her employees, as is the helpless one without this primary and very important knowledge. We have seen numbers of instances of both sides of this question and have seen the actual working out into practice of the above statements. Improperly selected and prepared food has broken up many a home and often injured or destroyed the health of some or all of the members of families, of which we have personal knowledge. Capable men have been underbidden in price and have found themselves unable to get a position at any price, because some frivolous young woman decided that she preferred to be a clerk or stenographer than to remain at home and give the needed assistance to some over-worked mother, who through mistaken kindness hopes that her daughter can be more of a lady than she has ever been able to find time to be. Shame on any daughter who will profit by this fond pride of a doting mother, to the great detriment of her mother's health and danger to her own happiess.

In the matter of wages and the preservation of the modesty and morals of our girls there would be much gain, if they would learn and practice housekeeping, either at home, or for others. There is a great demand for their services and much better wages than the other occupations afford. This digression will be excused, perhaps, as it is one of our hobbies.

The hospital question is one that should have the earnest attention of every practitioner, even in the small places, as outlined in the October, 1911, number of this journal on page 257. We again commend the idea to every wide-awake doctor who has not yet acted upon the suggestion, or who is not within reach of a hospital, that can be utilized readily and quickly. We believe that hospitals are to be used more instead of less and in a constantly increasing ratio.

We also believe that the unusual and unnatural craze for an operation of some kind whenever feeling ill is rapidly passing and that hospitals will be filled with sick people, who do not expect to have operations, in place of those who have been using them for this purpose more particularly or only.

BE A BOOSTER.

By Homer Clark Bennett, M. D.

Do you know there's lots o' people,
  Settin' 'round in every town,
Growlin' like a broody chicken,
  Knockin' every good thing down?
Don't you be that kind of cattle,
  Cause they ain't no use on earth,
You just be a booster rooster,
  Crow an' boost for all you're worth.

If things don't just seem to suit you
  An' the world seems kinder wrong
What's the matter with a boostin',
  Just to help the thing along;
'Cause if things should stop a-goin',
  We'd be in a sorry plight,
You just keep that horn a-blowin',
  Boost 'er up with all your might.

If you see some feller tryin'
  For to make some prospect go,
You can boost it up a trifle,
  That's your cue to let him know
That you're not a-goin' to knock it,
  Just because it ain't your "shout,"
But you're goin' to boost a little,
  'Cause he's got "the best thing out."

THE DOCTOR'S LIBRARY

"The Great Work" is the title of one of the most intensely interesting books that has reached the editors table for a long time. The announcement of the author is, that, "this is the book, which tells how one must live and what he must do to become able, to demonstrate the fact of another life himself." It is the first one of a series of three books that comprise the entire set, they are sold at the uniform price of $2.00 each, bound in fine silk cloth and can be had in Flexible Morocco at $3.50 each of the publishers, the "Indo American Book Company, 216-220 North Kedzie Ave., Chicago, Ill.

They are books of about four hundred pages each. They also publish some other very interesting books, such as "The Genius of Freemasonry," "Mystic Masonry," "The Dream Child" and others. They also publish a monthly journal, "Life and Action," subscription price one dollar per year, with about sixty pages of reading matter. Everyone who desires to seek for the truth in any of the so-called occult sciences will be well repaid for the careful study that they make of these books, as has the writer of this review. Whether one may arrive at exactly the same conclusions as the authors do or not, their candor and open-hearted way of handling these intensely interesting subjects and their frank criticisms of those who have been unworthily presenting the manifestations of this teaching before the public compels one to admire their candor and their evident intention to discuss the whole subject in a fair and an unprejudiced manner. We think that every one who is willing to investigate these books will endorse our opinion. In proof of this we will apend the opinion of one of our contributors and subscribers, who first called our attention to them.

J. V. S.

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"The Great Psychological Crime" published by indo-American Book Co., 222 N. Kedzie Ave., Chicago, Ill., price $2.00. It has been read by a good many men. of letters. It is wonderfully interesting and should be read by all lovers of the occult. Like many physicians, the author believes that obsession is a reality. In fact he can and has proven it. "The Great Work," published by the same company at the same price contains nearly 500 pages of intense reading. It is a scientific demonstration that what we call death is only a transition. The critic can here vouch personally for some of his wonderful experiences. "TK" is explicit anl free from technicalities. The Great Work is well named and from cover to cover has the clear metallic ring of eternal truth. The reader can well see that the writer has a clear brain. The physician and the "freemason" will grasp the spirit of the Great Work as no other can do.

—J. V. S.

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PUZZLERS.

Where can a man buy a cap for his knee?
Or a key for a lock of his hair?
Can his eyes be called an academy
Because there are pupils there?

In the crown of his head what gems are set?
Who travels the bridge of his nose?
Can he use when shingling the roof of his mouth
The nails on the ends of his toes?

What does he raise from the slip of his tongue?
Who plays on the drums of his ears?
And who can tell the cut and style
Of the coat his stomach wears?

Can the crook in his elbow be sent to jail?
And if so, what did it do?
How does he sharpen his shoulder blades?
I'll be hanged if I know—do you?

—Boston Evening Transcript.

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ALBUMINURIA

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

This bugbear of the medical profession has not yet lost its terrors to the great majority, and probably never will. Not only from the standpoint of insurance examiners, among whom it forms one of the great trinity—albumin, sugar and casts—the alpha and omega of their urine analysis—but under all other circumstances its name is mentioned with bated breath, and with grave head-shakings. Many a desirable applicant has been denied life insurance on this ground and many a patient needlessly frightened with the anticipation of Bright's disease, just because a single examination showed albumin in the urine. Fortunately, evidence is accumulating every day which tends to show that this symptom has by no means always the grave significance usually attached to it.

The term albuminuria is usually taken to mean the presence of serum albumin or serum globulin, or both, in the urine. Other proteids are, however, occasionally present, such as albumoses (wrongly reported as peptones), nucleo-albumin and fibrin, but the diagnostic value of these latter is comparatively small.

Under no circumstances, however, is the presence of any of these bodies in the urine normal. The physiological albuminuria claimed by some authorities does not exist. From the very structure of the renal epithelium it is impossible for any protein material to get through, except during structural or functional derangement.

On the other hand it is possible for an albuminuria to occur, in which the structural changes in the kidney are so slight and evanescent, if present at all, as to deserve no serious consideration. There may be a true functional albuminuria, in which no organic lesions can be demonstrated, but it will still not be physiological. Between the insignificant and transient albuminuria produced by renal anemia or hyperaemia, or various toxaemias, which cause renal irritation by the passage of poisonous substances, and the great and permanent albuminuria due to the organic lesions in true nephritis, acute or chronic, the line must be drawn somewhere. Usually clinical symptoms are present in the latter, such as fever, cardiac hypertrophy, increased arterial tension, and so on, which enables a differentiation. Then, too, the finding of blood, pus or casts along with the albumin gives it more significance. But above all, the common habit of forming a snap judgment of Bright's disease just because the urine contains albumin is to be deplored, as it is not justified by facts.

We shall briefly mention the most important forms of albuminuria, from an etiological standpoint.

(1) Toxic albuminuria. This is due to the passage of poisonous substances through the kidney. The irritation in

these cause is usually sufficient to temporarily derange the functions of the renal epithelium, and allow the passage of more or less albumin into the urine. We may consider that these substances naturally fall under three headings, (a) bacterial products in severe infections, acute or chronic, such as typhoid pneumonia, scarlatina, meningitis, diphtheria, malaria, erysipelas, syphilis, etc. (b) poisons taken in food or medicine, including alcohol, lead, mercury, turpentine, cantharides, phenol, and the products of ether and chloroform anesthesia, etc. (c) metabolic products. These are due to errors of diet in most cases, especially occurring in protein over-feeding, and include indican, indol, uric and oxalic acids and others . This is a very common variety of toxic albuminuria, and readily yields to proper physiological measures.

(2) Circulatory albuminuria. Due to any condition causing a passive renal hyperemia, the epithelium yielding to the pressure, so to speak. An increased pressure in the right heart, due to valvular or pulmonary disease, is a common cause. Another is pressure on the kidney itself by a tumor or a pregnant uterus.

(3) Organic albuminuria. Due to actual structural changes in the kidney. A regular symptom in acute nephritis and in chronic parenchymatous nephritis. Fairly constant, but not invariable, in chronic interstitial nephritis. In the latter disease, albumin may be absent for irregular periods, and if the diagnosis were to be made by it alone, this would be a difficult matter. In organic albuminuria the substance is usually present in large amounts, except in interstitial nephritis.

(4) Accidental albuminuria. Where the urine contains some albuminous material not derived from the kidney, but taken up after it leaves that organ. This may consist of pus, blood or lymph, and may be derived from the ureters, bladder, urethra, or vagina. Where necessary, a catheterized specimen may throw light on the source of the albumin.

The only one of these four forms of albuminuria deserving a grave prognosis is the organic, and as a rule it is differentiated from the others in being accompanied by tube casts. But tube casts themselves are not necessarily any more a sign of nephritis than is albumin, being due in many cases to toxic irritation of the kidney.

In general, this much should be conceded by all medical men, that the finding of albumin in a solitary examination cannot have any diagnostic or prognostic value. And yet, it is just on solitary examinations that life insurance is granted or denied, and on which most physicians make their diagnosis.

When albumin is found constantly or intermittently over a period of weeks or months, and if this albuminuria does not disappear after a careful correction of the diet and habits of the patient, then and then only can we consider that kidney lesions of a grave nature exist. It may seem a sweeping statement to make, but the fact remains that nine out of ten cases of real or fancied nephritis will disappear when the elimination of toxins through the kidney is stopped and the irritation removed.

The fact remains that a long-continued irritation of this nature may eventually produce permanent organic lesions if not checked in time. It is not difficult to imagine such a kidney, through which is passing a constant stream of poisonous material absorbed from the bowels, too large in quantity for the over-taxed liver to dispose of. When to this is added the additional handicap of insufficient water, the usual accompaniment of an over-sufficient diet, is it any wonder that eventually the delicate epithelium whose duty it is to hold back the useful serum albumin of

the blood will become permeable at last and quit?

As soon as this happens, albumin appears in the urine and the patient either imagines or is told that he has Bright's disease. Then the toxins produced by worry, and the toxins supplied by the various drugs which he gets in patent medicines, or has prescribed for himself, are added to those already present, and if he does not really have nephritis before he gets through it is a miracle indeed.

Compare this course with the rational treatment. A careful examination of the urine for other things besides albumin will show at once the disturbed metabolism. Withdraw the excessive proteins, which by their putrefaction in the intestines are producing the toxins, and by their liberation of acids are producing alkali starvation in the system. Do this and you have removed the principal cause of the renal irritation. But to remove the cause is not sufficient. The bowels and liver and kidney—the entire system in fact—are clogged up with the accumulated waste which will take perhaps months to clear out unless helped along. Plenty of clear, fresh water—not too much, but sufficient—will dissolve the waste, wash out the clogged organs and give the misused kidneys room to exert their functions. As a matter of fact, most diuretics owe their chief, perhaps their only value, to the fact that they are given in a glass of water. The water does the work in spite of the drug.

If now the waste still remaining in the bowels is removed by the proper methods, not by poisonous catharties, which would again throw fresh burdens on the kidney, but by high flushings, we have gained another point. All that now remains is to make up for lost alkalies, which will reduce the acidity of the blood, and consequently of the urine, another source of irritation. This is partially accomplished by the diet, largely vegetable, which is productive of alkalies. Usually, however, it is necessary to administer alkalies in large doses for some time, until equilibrium is restored.

And by this time the albuminuria will have disappeared, unless indeed, it was too late.

It is not necessary here to take up the various tests. Their name is legion, and most of them are good. Some, indeed, are too good, and they do not distinguish between true albumin and other proteids, but give a reaction with everything, even mucin. This may be one of the reasons for the statement occasionally met with that all urine contains traces of albumin. As before stated, this is not the case, as any appearance of albumin in the urine is pathological, although not in the sense usually understood.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

A CURIOUS EXPERIENCE WITH CANCER.

In 1891 the writer was physician to the hotels at one of the most celebrated Eastern medicinal springs. One of his patients there was a woman who had some time before had a breast removed on account of cancer, the operation having been performed by one of the leading surgeons of Pittsburg.

In due time the disease reappeared in the other breast, which was also removed. At the time she came under the writer's care, there appeard at several places in the scars, red angry-looking protuberances, which had every appearance of recurring cancer, and were so pronounced by every physician who examined them, quite a number of physicians then being visitors at the

springs. Among these were at least three men who held positions on the faculties of medical schols in New York City, Baltimore and Pittsburg, each of whom without hesitation pronounced the growth recurrent cancer.

The woman also was becoming haggard and presented the characteristic cachexia. She was unable to sleep on account of the severe shooting pains connected with the growth.

To relieve the latter, and without any expectation of further benefit, the writer applied faradic current from the Kidder battery, choosing that on account of the fineness of the interruptions produced by the Kidder rheotome, at that time the best instrument of the kind on the market, so far as the fineness of the interruption was concerned. The treatments were given daily, for fiften to thirty minutes, and continued until the patient felt quite easy. Each treatment was followed by a restful sleep.

In the course of a month the pains had entirely subsided, the apparently cancerous enlargements had disappeared, and the scars had resumed their normal appearance.

Was this a cure of recurrent cancer? If the nodules were not cancer, what were they? In the meantime the writer, who did not receive a dollar for his service in the case, finds his recompense in the following graphic account of a patient's gratitude for services received. "The lady is still living, fifteen years later, in good health, and now says she never had cancer."

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

MANAGEMENT OF THE NEW-BORN INFANT.

As soon as the child is born or, indeed, as soon as the head is born, the face about the eyes should be wiped clean with a piece of cotton or soft gauze moistened with sterile water. It is probable that the eyes of the infant are kept tightly closed during the passage through the mother's genital canal and consequently any infection of them probably results from material already on the lids which gets into the eyes when they are opened after birth. In all suspicious cases a drop or two of nitrate of silver solution (2 per cent) or of argyrol (10-30 per cent) should be instilled into the conjunctival sac as a prophylactic against gonorrheal ophthalmia.

As soon as the child's body has emerged from the vulva it should be laid upon the bed between the patient's legs. It is well to elevate the legs of the infant so as to allow any fluid which may have entered the mouth, pharnyx or respiratory passages to flow out, perhaps assisted by the litle finger of the operator passed into the pharynx. It is my practice to clamp the cord about two inches from the navel with a forceps and cut on the maternal side. This need not be done hastily provided the child is in good condition and is breathing well. In most cases it is best to wait several minutes until the pulsation has ceased in the cord and the fetal blood in the placenta has entered the body of the child. If there should be indication for assisting the child to establish respiration one must needs have it free from the mother in order to perform the acts incidental to artificial respiration. The baby, after it has breathed well and cried lustily, may be wrapped in a soft clean cloth and laid away well covered in a warm place.

After the mother has received proper attention, the obstetrician should return to the baby, inspect it for malformations, and perform the permanent ligation of the cord. Any sterile ligature may be used, catgut, linen thread, silk or narrow tape. The ligature should be applied about half an inch from the navel. It is not wise to leave any more of the cord than this to slough away and be a possible source of infection. One should tie the ligature firmly, guarding his hands from flying apart if the ligature should break. The stump of the cord and the skin about it should be wiped with alcohol and a piece of sterile cotton or gauze laid over the region.

As soon as convenient the nurse should oil the whole infant with some bland sterile oil, such as albolene or olive oil and at leisure give it its first bath. The latter may safely wait several hours. The first bath should be given in a draftless room heated to about 85° F. and in a tub of water heated to about 95° F. Any bland unirritating soap may be used. The oil will have loosened the vernix caseosa and the soap and water will usually entirely remove it. In some cases the scalp may be so matted with the vernix that it is not easy to remove it all from that region at the first attempt. If so the scalp should be again anointed with the oil and washed again at a later time. The child should be gently sponged with a piece of soft gauze or cotton. No vigorous rubbing should be attempted. After the first bath in the tub the other baths should be only sponge baths until the cord has come away and the navel healed. Thus there will be less danger of infection through the navel. The cord and the region around it should be dressed with 50% alcohol followed by sterile water, sterile cotton or gauze used as a dressing and a thin binder pinned or sewed on as a retainer. Any bland powder may be used to prevent chafing in the folds of the baby's skin. Simple starch powder or talcum without perfume should be employed.

The physician will sometimes be consulted as to the baby's clothing. Since improper clothing may have a very deleterious influence upon the child, it is important that the attendant should inspect the layette and discard whatever is harmful. The time-honored binder is useful only to retain the dressing of the cord and should be discarded as soon as the navel has healed. The notion that hernia is prevented by using a belly-band is of course erroneous. The shirt should be of soft flannel and should be made to go on like a coat instead of over the head. The diaper should be of linen or of soft cotton towelling. In any case it shoull be absorbent. There should be a tab on the shirt to pin that garment to the diaper, otherwise the shirt will be wound around the child's chest under the arms like a rope. Short worsted socks or crocheted "bootees" should be worn on the feet in winter or when the child goes out in the cooler days of summer. These must be pinned to the distal portion of the diaper to prevent them from being kicked off. The next garment should be a long underskirt of flannel having straps over the shoulders. The so-called pinning blanket is only useful when the baby goes out or in very cold weather. Over these essential garments the mother may be permitted to place an outer dress as elaborate as her taste or purse will allow. The main principle in all baby clothing is looseness and softness. In the summer time and in our overheated houses even in winter it is usual for babies to be too warmly dressed. They sweat and their tender skins are irritated by the heat. Often minute macular eruptions are produced and in general the child is rendered nervous and uncomfortable. In summer shirt and diaper, or even

shirt without diaper, will ofen be sufficient.

A baby's business is to rest, eat and grow. It should sleep three-fourths of the time and preferably upon its own bed. Even very young infants learn habits easily. Therefore, unless there will always be somebody to hold and carry the baby, it is unwise to let it learn that any little complaint or sniffle on its part will obtain for it taking up, carrying or rocking. A healthy baby needs very little attention beyond that required to give it food and drink, to keep it clean and dry. It should not be made a plaything of its parents or others and should not be on constant exhibition for admiring friends. Kissing is said to go by favor, but it is a favor to baby to refrain from kissing it. No adult mouth is better than a cesspool full of millions of microbes, all offensive and many of them virulent. A baby, with its low vital resistance, should not be subjected to this danger of infection.

Authorities differ as to the best time to put the child to the breast for the first time and as to the intervals of nursing. It is my practice to allow the infant to suckle as soon as it is cleaned up and dressed unless the mother is sleeping or resting. Retraction of the uterus is thus favored and the secretion of colostrum and milk is stimulated. For the first three days once every six hours is often enough for nursing, after the milk secretion is established onece in every two and one-half to three hours, except at night, when the breasts should be cleansed with sterile water and gauze before and after each nursing. Between times a piece of cotton or gauze should be placed over the nipples.

Before leaving the house after the confinement the obstetrician should carefully examine the child for malformations. He should look for the permeability of the anus, should ascertain whether the child has urinated, should examine the prepuce or the vulva, should examine for hare-lip and cleft palate, cephalhematoma, hernia cerebri or other malformation of the head, supernumerary digits and the like.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D.
M. E., Lima Ohio

ELECTRIFICATION IN VARICOCELE.

By W. H. Wilcomb, D. E. T.

In meeting this class of diseases we have several conditions claiming our attention. In varicocele we have, first, a weakness of the veins and arteries. Second, an enlargement often complicated by inflamamtion of adjacent tissues. In many cases the lesion is caused by a lack of nerve vigor, and in other instances it is a result of local disturbances.

It is next to impossible to lay down a course of technique to be applied to every case. The treatment must be varied to meet individual needs.

Electrification is the best agent we have in either of these conditions, but it is not a safe one to employ haphazard. Until the medical profession comprehends the fact that electrification is a powerful therapeutic adjunct, capable under proper administration, of great good, and yet at the same time, if abused may become dangerous, there will be many failures to secure desired results .Too much can not be said on this line. A very large per cent. of the physicians in active practice consider electrification as a mild sort of remedy having an uncertain action and which is to be listed among the "Simples." Any physician who holds these ideas, or who is unacquainted

with this subject has no business to attempt to employ its powers in varicocele, or any other disease of importance. The employment of galvanization in such conditions by a novice is as criminal as the administration of strychnine or hydrocyanic acid by a layman.

With this supposition that the operator is fully familiar with the principles underlying electro-therapeutics, this article is submitted. I have no comments to offer, realizing that to some extent the methods of administration are a departure from more common practice. I have only this to say, that they have met with almost unvarying success.

In a case of simple varicole, I am governed in the first stages of treatment by the history of the case. I have found several cases where the entire trouble was due to a lack of nerve tone. With these patients I employed at first faradization with foot plate and hand electrodes, using a mode of considerable tension, with rapid interruptions and as strong as can be employed without inconvenience to the patient. Where the patient has it at his command, the true sinusoidal mode is best for this purpose. Continue these treatments from fifteen to thirty minutes for two or three days. I frequently follow these the second day by local galvanization, using a sponge electrode, sufficiently large to cover the lesion using positive pole active, while for inactive electrode I employ usually a large foot plate. Beginning at 0 increase gradually until as strong as can be comfortably borne by patient. I find frequently that by keeping both electrodes well moistened I can use from ten to twenty milliamperes without discomfort, though the batteries should be well sustained that mode may be constant, as fluctuations in strength, which are often due to poor condition of battery solution, or to poor contacts, are sure to be unpleasant. I seldom find this method to fail, but have met a few obstinate cases; when I come in contact with such and find that after two or three treatments as outlined, I have achieved no practical results, I resort to the injection treatment.

Thoroughly cleanse surfaces involved, so as to be as near to aseptic as possible, employ sterilized hypodermic syringe, inject from half dram to dram and half of sterilized 1.5 per cent solution common salt, strength of solution can be varied at discretion of operator). Wtihdraw syringe and employ galvanic mode as outlined above.

Where there is much sensitiveness and mode is not readily endured the following solution can be used to good advantage on the positive electrode.

Sulphate morphine, gr. iv.

Cocaine Hydrochlorate, gr. x.

Distilled water, oz. ii.

In rare cases, three or more fine gold plated or platinum needles may be used to advantage in place of sponge electrode, though my personal experience has been in favor of the large electrode and increased mode strength. The sittings should be as long continued as possible, and as frequent as the condition of the patient will allow.

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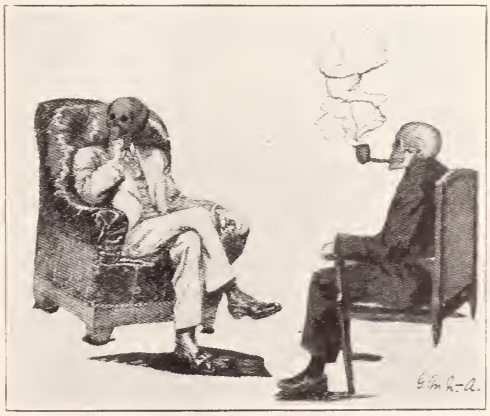

Drawn by Grace M. Norris, M. D.

DEPT. OF GENITO-URINARY DISEASES

Conducted by
NELSON F. McCLINTON, M. D.
Chicago, Ill.

Probably every practitioner numbers among his patients varying numbers of the female sex who complain of irritability of the bladder. It is of different grades of severity, some respond to treatment readily while others seem intractable and if responsive to treatment it is apt to be only temporary and there is a tendency to relapse.

These cases are generally diagnosed as cystitis either acute, subacute or chronic and receive treatment for such with the result that a per centage are cured or relieved while the remainder are relieved but little or none at all.

Of the above the percentage cured probably were cystitis per se, the remainder, namely the unfavorable cases either were those of a cystitis or simulated same but the exciting cause present was not primarily in the bladder but due to a condition outside of the viscus.

It is not the object of this article to attempt to discuss the subject of cystitis, its causes or the many factors that enter into its production but only to call attention to one condition frequently present in the female bladder but is often overlooked and this being the case and treatment not directed at the proper cause, the results obtained in treatment of this condition is unsatisfactory.

I refer to cystocele together with dilitation, pouching and dragging down of the urethra. I do not mean to insinuate that cystocele of considerable size are overlooked, but do state that small cystoceles particularly involving the region of the internal urethral orifice are often not discovered.

It has been the privilege of the writer to have seen numerous cases of this character, namely a small cystocele no larger than a marble caused by either stretching or rupture of structures in the anterior vaginal wall.

Possibly there are numbers of these cases that produce no symptoms, however the majority, on acount of stretching, inability to empty itself and the abnormal position of the urethra, do produce the symptoms as stated above and the case is diagnosed as one of cystitis.

As to diagnosis, patient should be examined both in a reclining and upright position when asked to strain or bear down the pouch can either be seen or felt.

2. A sound inserted into the bladder and made to engage in pouch can easily be shown to be in a location that would not be present in a normal case.

3. By use of a cystoscope which will demonstrate the abnormality together with the inflammatory or oedematous condition that usually coexists.

The treatment of this condition is surgical, repairing the anterior wall and bringing together the deeper structures so that the bladder and the urethra will be maintained in their normal positions.

♣ ♣ ♣

A little girl was having her first ride on a big steamboat, crossing the Atlantic. The captain was explaining numerous things to her, among them his telescope.

"Now, what would you like to see through it?" he asked pleasantly.

"I'd like to see the equator."

The captain pulled a hair out of his head and holding it before the telescope, bade the little girl look. "Do you see it?"

"O, yes," she said, "and there's a camel walking across it."

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.,
Janesville, Wis.

A FUNGOUS INFECTION OF THE EAR.

Dr. A. B. Stout, director of the laboratories, has an interesting article in the Journal of the New York Botanical Garden, from which we quote:

The disease known as mycosis of the internal ear of man is not uncommon. Cooke describes as a new species, Aspergillus nigricans, which has been obtained from the human ear. Later he again describes and also gives figures of this mould.

General descriptions of cases of mycosis of the external ear have appeared in various medical journals and books. One of the more recent of these is by the noted specialist, Ballenger, whose discussion may be here summarized as follows: The fungus forms a membrane black or grayish in color and velvety in texture which covers the osseous portions of the canal, although the drum head and cartilaginous portions of the canal may also be covered. If the epidermis alone is affected there may be no symptoms. If the true skin is attacked there is swelling and inflammation with pains, itching and deafness. The mycelium may extend to the middle ear or even to the mastoid cells.

The source of the infection is unknown. It is noted, however, that the disease is quite common among bakers and among the poor who are living in unsanitary conditions. It is stated that varies species of fungi have been found growing in the ear, but the most common species are Aspergillus niger, A. flavus and A. fumigatus.

In the treatment, a long list of antiseptic mixtures and powders have been used without general success. In fact, the fungus appears to thrive in spite of treatment with ordinary solutions of carbolic acid, boric acid and mercury bichloride. Alcohol is however an effective remedy and when dropped in the ear once or twice daily for about four days it effects a complete cure.

A case of infection of the ear by Aspergillus nigricans Cooke has recently been brought to the attention of the writer. In this case there has been also repeated infections with micrococcus, resulting in small abscesses. Several physicians and ear specialists consulted from time to time were led by this condition to overlook the presence of the fungus which was evidently of primary importance. The treatment with mercury bichloride, 1:1000, checked the infections due to the micrococci, but the fungus continued to develop, at times almost filling the ear cavity with mycelium and producing an abundance of spores. In this condition it was easily isolated in pure cultures. At present report the treatment with alcohol appears to have entirely removed the infection from the ear.

NOTES.

Cargentos is a new silver salt which is giving good results in ophthalmic practice. It is an efficient germicide and is non-irritating.

French ophthalmologists complain that practice is decreasing on account of preventive measures which lessen the amount of eye diseases. General practitioners do more eye work than formerly and refer less to the specialists.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
Chicago, Ill.

VARICELLA.

Is an acute contagious disease, recognized by its typical discrete eruption; a slight fever and little constitutional disturbance. The contagion is a very active one and can be communicated by, direct contact, fomites, and at considerable distance through the surrounding atmosphere. Making it necessary to have the patient removed to a separate building, to be sure to secure immunity through isolation from a patient. It may be endemic, sporadic or decidedly epidemic. One attack immunizes. Both children and adults are susceptible to attacks. No specific organism has been discovered and it has no relation whatever to small pox. After a period of incubation of about two weeks, the patient has chiliness, slight fever and malaise for a few days or, the eruption may be the first symptom, without the other symptoms mentioned being seen. Under some conditions of the system and if there are any complications the fever may become quite high. The eruption is particularly characterized by making its appearance in sucessive crops instead of all at the same time as in other of the eruptive diseases.

The beginning of the eruption is the appearance of a papule, small, slightly raised above the surface and surrounded by a red areola, not unlike that seen at the place where there is the bite of an insect This rapidly changes to a clear vesicle, which gives the appearance of a drop of clear water on the apex of the papule. The vesicle dries from the center giving an umbilicated appearance. Later it becomes a brownish crust. Several days are required to complete the cycle, though some are completed quicker than others. Several successive series may appear as previously stated. This permits one to often see all of the stages of the eruption as described, on the same patient, at one time. More of the eruption is seen on the trunk of the body than on the extremities. Any of these papules are liable to become infected, from scratching with the finger nails and otherwise, when they become postular. Pustules leave deep white scars, while the papules leave no "pits."

There is a rare form called "Varicella Gangrenosa," where the eruption becomes gangrenous and which often proves fatal. The most common complications are erysipelas, adenitis and nephritis. The mere mention of these conditions, should cause us to be careful to care for the case in such a way and to meet complications so promptly and carefully, if they appear, that a fatal result will be avoided if possible. For these reasons, a strict quarantine should be provided for, to protect the public. The treatment requires careful attention to all symptoms and indications of complications and the application of soothing unguents to the eruption. The disease should have your careful supervision, as should all diseased conditions.

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MISCELLANEOUS

INDICATIONS.

By George L. Servoss, M. D. Gardnersville, Nevada.

In the treatment of disease, with drugs or other therapeutic agents, indications in all cases direct the physician in his work. An indication may consist of one condition, or a number of conditions combined. Many indications are common to practically all diseases, and in consequence a common treatment exists. In sthenic cases, with fever, aconitine is invariably indicated, in that it relieves tension, equalizes the circulation and reduces the fever, thereby tending to restore the normal. If there is rapid heart in connection with fever, digitalin in combination aconitine is indicated, both for its direct action upon the heart as well as a synergist to the aconitine effect. If there is considerable fever, with internal congestions and cold and clammy surfaces, atrophine is indicated, either alone or in connection with aconitine, in that the former favors forcing of the blood to the surface with accompanying relief of the general congestion. Strychnine is frequently indicated to restore general tone and as a synergist, through such action to aconitine. When there is fever accompanied by more or less delirium, indicating improper elimination it will be found that veratrine, either alone or in combination with aconitine, or aconitine and digitalin, is indicated, in that veratrine dilates the capillaries and allows of the speedy elimination of toxic materials. With these few agents it will be found that practically all indications of the sort enumerated may be met and combatted successfully.

The circulatory pressure is now commanding considerable attention, both as a symptom and indication for the use of remedies. It will be found that many of the remedies directed to the lowering of fever will act to relieve high blood pressure, in that they favor capillary dilation and resulting lowering of blood pressure, as well as of temperature. If the blood pressure is low, those agents which will restore general tone are, as a rule, indicated. Atropine and nitroglycerine are probably the most active in the lowering of blood pressure, in that they act with rapidity and both have the effect to dilate the peripheral vessels, thus allowing of the more uniform flow of the blood current, through relief of the internal circulation. Both of these agents act with considerable rapidity, glonoin being active almost instantaneously, while atropine, if given hypodermically, and in full physiologic dosage, is very rapid of effect. Through slowing the heart and allowing of more blood being thrown out with each cardiac impulse, digitalin is undoubtedly the indicated remedy in low blood pressure.

A condition known as autointoxication, or autotoxemia, is, without doubt to be blamed with the major portion of diseases, both acute and chronic, to which man is prone. This is a complex condition and due invariably to faulty elimination. It carries a complex number of symptoms and likewise a complexity of indications. In one case in which this condition is existent there may be a diarrhea, due to the residence within the bowel of some irritant, while in another there may be a reverse condition, the latter possibly succeeding a diarrhoeal condition and due to atony of the bowel, following a siege of active irritation. In such cases there may be lowered function of all of the principle organs of elimination, or these organs may be overactive, even though not functionating properly in the removing of effete materials. A clearing of the bowel is invariably indicated in all autoinfections, no mat-

ter whether there may be diarrhoea, or the reverse, and regardless of other associated conditions. The bowel in such cases is invariably the residence of the causative factors and with all local conditions favoring, these causative features are undergoing proliferation and toxin manufacture, the latter being absorbed to upset the equilibrium of the entire economy. Primarily only the bowel is involved, as a rule, but later, with the absorption of toxins, practically every organic function is interfered with to a greater or less extent. As a rule the kidneys and liver are considerably overworked, as it is the function of both of these organs to elimininate all toxic materials from the economy. Being overworked for a time, these organs finally become faulty of function, and in some cases practically cease functionating. The skin, for a while, takes care of the work, or a portion of it, for the kidneys, but it finally tires and becomes atonic of action. In such cases it is clearly to be seen that the indications for use of drugs becomes a complex matter. In practically one hundred per cent of all cases, there is an indication for the thorough clearing out of the bowel, and this regardless of the fact that a diarrhoea may exist. Calomel, podophyllin, salines and other cathartic and laxative agents are invariably indicated. Following the indication for the clearing of the bowel, the keeping clean of that organ is apparent, in that proliferation of toxin producing organisms may be overcome and that those already existent may be inhibited of action. Here we find the sulphocarbolates, or other intestinal antiseptics indicated, they to be administered until such time as the bowel discharges are normal in every way. Following the use of the chemical intestine antiseptics, it has been found that the exhibition of the Bulgarian lactic acid bacillus farther inhibits the action of the toxin producing organsims. In probably ninety per cent of all cases of autoinfection an examination of the urine will show a hyperacidity, due to the elimination of a portion of the immense quantities of acids produced within the tissues by the toxins absorbed from the bowel. This hyperacidity is usually accompanied by the presence of indican. In other cases the urinary acidity may be below normal, this indication improper elimination and the storage within the economy, the products of toxic action. In those cases in which there is a hyperacidity of the urine the alkalies are surely indicated and their administration should be carried to the point where the urine shows the normal, or below the normal, 20° to 30° as based upon the findings when the Harrower Acidimeter is employed to determine the urinary acidity. The intestinal antiseptics should be given in conjunction with the alkalies, in that the proliferation of the toxins may be overcome. When the acidity is below normal, but there are other indications of acidemia, the alkalies will be found of service, out in such cases they should be administered in connection with such agents as will increase nephritic function. Anthoxylin is invariably indicated in such conditions, in that it favors increased flow of urine and the proper eliminative functions of the organ. In practically all cases of autointoxication the liver will require some attention, although in many instances, when the other functions have been corrected, and elimination by the bowel, kidneys and skin re-established, it will be found that the liver will practically take care of itself. When the skin is inactive, either partially or wholly, there is an indication for hot baths, either wet or dry, in that the function may be thus restored through the tonic effect of such applications. In the treatment of autoinfection it will be frequently found that there is considerable irritation caused by the hyperacid urine and in such cases hexamethy-

linamin, alone or in conjunction with arbutin, is invariably indicated, the latter always, if there is any septic condition either of the kidneys or bladder. In fact these two remedies may be given in the vast majority of autoinfections and with invariably, good results. It will be found that, in practically all acute, infective diseases, there is more or less autointoxication, arising from other than the specific infective agent, and this constitutes an indication for the use of the outlined treatment in practically every acute infection. The facts of the matter are, that practically every acute infection is preceded by a general toxemia of the sort mentioned, this, in many instances being the indirect cause of the acute infection, in that it causes a lowering of the vitality and subsequent invasion of the specific organism.

These indications have been mentioned in passing to demonstrate that it is not the disease, per se, which is offered for the application of remedies, but rather the conditions presenting during the course of a disease. The facts of the matter are, that no two cases of any particular disease are treated in exactly like manner, as no two proceed in exactly the same way. There is no absolute specific for any one disease, with possibly one or two exceptions, and even in these indications, as they arise, are met. However it is being demonstrated that there are specifics for individual indications and those who recognize such indications find drug and other remedies worthy of employment in the vast majority of cases, as results are obtained and satisfactory terminations are the rule and not the exception in the majority of instances.

Some practicians object to "symptom treatment,' contending that each disease should be treated as a disease and that the various symptoms occurring through the course thereof should have but scant attention and that treatment should be, in every instance, based upon a complete diagnosis. A diagnosis should be made in every instance, but the name of the disease should be practically forgotten in the majority of instances and the indications met as they arise. Those who treat diseases as such, almost to a man, decry the use of drugs and pronounce them worthless, while those who meet and treat indications find much of worth in these agents, properly applied and at the proper time. Those who treat diseases as a whole, usually resort to polypharmacy, while those who give attention to the indications, as a rule, employ only single remedies, directed to the relief of the indication and it alone. The disease as a whole is the entire target, while the indication is the bull's eye. The polypharmacy mixture is the blunderbuss while the single agent, directed toward the single indication is the rifle and it is a well known fact that more bull's eyes are shot with the latter than the former. The successful internist is he who meets indications as they arise, and with proper remedies.

ILLINOIS STATE BOARD STATISTICS.

By W. F. Waugh, A. M. M. D., Chicago, Ill.

The Illinois State Examining Board has fallen for the popular fad for "high standards." The 1911 examinations of applicants for medical registration showed a percentage of rejections reaching 26.3; while New York rejected 23.4; Missouri 17.3; New Jersey 12.3; Minnesota 10.8; Iowa 7.4; Wisconsin 6.1; Pennsylvania 5.0; Ohio 4.5; Indiana 5.8; and Michigan 0.8.

Also the Ilinois Board rejected 24.5% of the applicants from Ilinois colleges, while the other State Boards found only 10% of Illinois graduates below par.

Does this mean that the States whose

Board rejects the larger percentages of applicants are better protected than the others? Oh, dear! No! It simply means that a larger proportion of the practice will be in the hands of the quacks, who do not have to pass the Boards. It means that the Illinois Board has given way to the clamor, and joined in the race for the medal, the 'honor' of rejecting the greatest percentage of candidates. By so doing this unwise Board pleads guilty to the charge of its enemies, that it has been hitherto 'too easy.'

Far from getting any credit for its present harshness, the men who have been trying to supplant the Illinois Board will at once take this stand, and use the present report as an admission of previous inefficiency.

Neither the colleges chartered by the State, nor the candidates graduating from them, have any claims for consideration. The acknowledged discrimination against our home colleges is a notice to go elsewhere for their medical education.

This estimate is not that of the community. The Dean of Bennett College is overwhelmed with applications for graduates of that school to fill locations where they are needed. As an illustration: One of this year's graduates had been offered an internship in one of the best cities in Michigan, with excellent prospects for a permanent location, when he was taken away to become Superintendent to an Ohio Sanatorium, with a beginnig salary of $1,500 a year and expenses. The Dean is unable to find men to fill all places proffered, and desires us to state that if any graduate of Bennett desires a location, he would be glad to hear from him.

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The large circular eye glasses, known as the "Oxford," "Harvard" and "Varsity" are proving very satisfactory. Their sale is rapidly increasing.

NOTES ON IODINE AND IODIDES.

By J. A. Burnett, M. D., Marble City, Okla.

At the present time there is a great number of so called soluble iodine preparations intended to be used externally for general systemic iodine effect as well as can be used internally. I think it was Dr. F. W. Williams, that first gave the profession a method for making soluble iodine and several of the manufacturers of the socalled soluble iodine preparations got their ideas from Dr. Williams, some have been modified more or less. Dr. Williams gives the folowing directions for making what he calls glycerol of iodine.

"Any physician with a pint flask, such as used for making chlorine gas and a gas or alcohol stove can make his own glycerol iodine. Put an ounce of iodine in the flask and add twelve ounces of alcohol. Set the flask in a sandbath over your heater and connect its neck by means of a rubber tube with a glass tube runnig down into a wide mouthed bottle. The latter must stand in water kept cold with ice or running water to condense the vapors as they come over. Use a gentle heat until the alcohol and as much of the iodine as it will carry over with it, has been distilled over into the wide mouthed bottle. All impurities in the iodine will thus be left in the flask and you will have twelve ounces of alcoholic solution iodine which when you have added to it four ounces of glycerin commercially pure will give you a pint of pure medicinal glycerol of iodine."

There are various uses for glycerol of iodine. It is a valuable agent for both internal and external use. It is used locally on the skin to produce systemic effect. In chronic bronchitis Dr. Williams uses one or two drachms over the chest in a streak along the sternum two or three inches wide from the junction of the clavicles to the lower end of the sternum or over the entire side

from spine to sternum and repeats this night and morning until symptoms of iodism appears which is usually two or three days and then omit a day and resume same way. He stops as soon as buzzing and ringing in the ears and other nervous symptoms are complained of. He considers the local use of glycerol of iodine in goitre and enlarged glands superior to the hypodermic method.

The local use of glycerol of iodine leaves no stain on the skin, like the tincture of iodine as it is absorbed by the system and the amount used must be regulated.

When the tincture of iodine is applied locally on the skin the alcohol soon evaporates and the metalic iodine is left on the skin which makes a stain and there is extremely little absorbed by the system and not much effect but counter irritation and local germicidal and antiseptic effect.

Iodine is destructive to all forms of micro-organisms from the most harmless bacteria to the most virulent as anthrax, hence it has a wide range of usefulness in the treatment of various diseases. It is thought that glyecrol of iodine used locally will prove to be of great value in tuberculosis and it will no doubt be a valuable agent in this disease. Glycerol of iodine can be combined with liquid guaiacol and used locally in pulmonary tuberculosis. Guaiacol takes the place of creosote in pulmonary tuberculosis and can be used locally for systemic effect. When liquid guaiacol is used locally the dose must be carefully regulated. The combination of glyecrol of iodine and liquid guaiacol is of much value in tonsilitis used directly on the tonsils and over the throat and of value in bronchitis used over the chest.

It can be used locally in pruritis vulva or ani with good results. There is an article "Iodine Oil," by Dr. Edw. H. Shields, April, 1907, Medical Brief. It tells how to use iodine in goose oil and will be of much interest to those that are interested in the soluble preparations of iodine. Iodine has been used internally in cases of carbolic acid poisoning. It is stated that there is a chemical compound formed when iodine and carbolic acid is mixed. I suppose it would be phenol iodide. This combination is said to be harmless but it may not be, about equal parts of tincture of iodine and phenol is said to be complemental. The mixture of tincture of iodine and carbolic acid was brought forth a few years ago as a remedy for lagrippe, cold and similar conditions.

Dr. A. P. Read states that a teaspoonful of sodium chloride added to a pound of tincture of iodine will prevent it from deteriorating.

Here is a veterinary spavin cure that I consider worth remembering as it will be of value in human practice.

℞

Camphor	℥ iv
Oil turpentine	℥ vj
Oil wormwood	℥ ij
Tinct. Iodine	℥ iv
Mercury bichoride	gr. xxx

Iodine should be administered before meals as food products impair its therapeutic action by formation of iodide of starch. The systemic effect of iodine can be obtained in a very short time by inhalations of ethyl iodide 15 to 20 drops on a handkerchief every two to six hours. This is often important as in brain syphilis, spasmodic asthma, whooping cough, etc.

Iodized calcium is not a chemical but a mixture containing about 15 per cent iodine and 85 per cent calcium compounds.

One phyisican makes iodized calcium as follows for about 5 to 10 cents an ounce, instead of paying about 50 cents an ounce for it.

℞

Pure white air slacked lime	℥ j
Resublimed iodine	gr. 65

Mix thoroughly in a glass mortar with pestle, place in glass stoppered bottle in about three days it becomes dark brown and is ready for use.

Dose according to results desired. Iodized calcium is a very convenient way to handle iodine by the general practitioner who does his own dispensing. It has good effect and is as a rule very well tolerated by the stomach.

Dr. Ira Marshall has used the following for 14 years in croup without a single death.

℞

Iodized calcium .....gr. xij
Pilocorpine ..... gr. ss
Boiling water .....ʒ ij
Glycerin ..... ʒ i

M. ft. sol. Sig. Teaspoonful every 20 minutes until better, then every hour.

Prof. Seiberts prescription for scarlet fever is:

℞

Tinct. iodine .....ʒ ss
Potassium iodide .....gr. xv
Carbolic acid .....m x
Aqua q. s. ad .....ʒ iv

Sig.—Dose one teaspoonful every hour.

Dr. P. D. Fairex of New Orleans, La., recommends the following for hookworm:

℞

Iodine resublimed .....gr xij
Potassium iodide .....gr. xxxv
Aqua ..... ʒ j

M. Sig. Dose 10 drops three or four times a day.

He also recommends it for tape worm.

♣ ♣ ♣

H. C. Bennett, M. D., Lima, Ohio—I am very much pleased with your lessons in electro-therapeutics and I have had to modify my former disapproval of mail courses. They are certainly multum in parvo. O. S. Hartson, M. D., Jackson, Mich.

WIFE BEATING.

By W. F. Waugh, A. M., M. D., Chicago, Ill.

She never needs beating? How about Mrs. Giddy, whose husband is an engineer and works while she neglects her children and goes joy-riding with old Moneybag's son? Better beat her now, or soon she will be adorning herself with dry goods and millinery far above her husband's means, and then it will be a question of killing.

How about Mrs. Booze? Her man works and every Saturday night brings her his envelope unopened; but she keeps straight just so long, and then he gets a dun from the grocer, investigates and finds the house stripped, even the family Bible pawned and all melted down her hot throat. Divorce? There's the child, too little to do for herself yet. A little wholesome fear of her man would not hurt her.

Mrs. Frowsy boards—she does not care to keep house. She lies abed till lunch time, then slips a wrapper over her nightie, and goes down, hair uncombed, unbathed, and spends the afternon lolling on the sofa with a novel; grumblingly rousing to dress for dinner. Rooms unkempt, smelly, self untidy, her days varied by swapping gossip with the other boarders and playing cards. A shingle properly applied might be beneficial.

There are others; but the task of holding the imperfections of womankind up to the light is repugnant. I have learned to look upon her as something superior to masculine humanity, something not quite divine, but who teaches us to realize that there may be such things as angels, purer, better and finer than we; yet still human, enough to be our closest, dearest associates. There are spots on the sun; that among the glorious array of womankind there should occasionally appear one that falls short of the ideal is little to be wondered at. Indeed, it is the lofty

ideal we have formed of them that makes us resent the rare lapses therefrom. We want to adore them; we must feel that humanity has better and lovelier characters than our own.

It is really this sentiment that leads us to condemn in women what we stand ready to condone in men. Men prove derelict—well, what are men at the best! But when woman falls, it is a shock to our most revered traditions, our most sacred beliefs. Moreover, it is no mere sentimental association of fancied qualities with women who are in fact commonplace and earthy. For under our homage she grows up to the ideal we set for her. Garretson used to say that if we told the mate she was an angel, a hundred times a day, she would grow angelic. It is true; more, it is the central, basal truth about the family relation; and any man may have an angel for a wife if he adopts this plan. Under the warmth of her mate's love and the constant expression of his appreciation, she expands her petals like an opening rose, and sheds the sweet perfume of her being on all who come within the charmed circle of her influence. While the husband forms the solid wall of the house that supports and guards it, she represents the music and relaxation, the laughter and wit, in a word, all for which we live and work.

Man's life commences when he begins to build a family; when he takes his mate and creates a home; when he becomes the bread winner, not for his selfish self but for his mate as well, and for the children that gather about him and grow toward maturity in the shadow of his protective bulk. He who shirks such duties finds himself in time a mere useless derelict on life's ocean. He has meanly left his share of manhood's duties to others; he has failed to contribute his part to the future race. He has acknowledged that other men are so much better endowed with transmissible virtues that his blood ought to become extinct, his life end with himself.

I pity the man who has no pride or belief in his own race; who has not the grace to select a suitable mate and implant in her the seeds of his own being, to continue to posterity the qualities with which he was endowed by his ancestors, and for which he believes the race will be better. Holmes said that no man has risen to eminence in New England, in whose blood that of Jonathan Edwards did not run. Suppose Edwards had remained a bachelor—what would the history of the country have been?

The degeneracy of the Middle Ages was possibly directly attributable to the craze for asceticism, by which every man capable of self-abnegation, of sacrifice to the calls of supposed duty, was withdrawn from the public and left the propagation of the race to the inferiors who were incapable of such devotion.

To every man and woman accrues these duties—to develop in themselves the very best of which they are capable, to appoximate to the utmost the ideals they form; and to transmit these qualities to a posterity that may still further develop them for the benefit of mankind.

But to conclude—we have apparently wandered far afield and yet in reality we have not. Man's place in life is to adore, to love, protect and provide for, woman. Even if he has occasionally to hold the miror up to reveal to her her own imperfections, it is no less his duty. Even if he has rarely to employ his greater physical prowess to hold her upon the pedestal from which she would descend, it is yet his duty But let no man take from my words justification for illtreating his wife. Pathetically, one poor soul wrote to me: "Men need no encouragement to make

them any meaner to their wives than they are now!''

To which we add a fervent and comprehending Amen.

DIET AND PERSONAL BEAUTY.

By J. L. Wolfe, M. D., Cedar Falls, Ia.

In what does personal beauty consist? What are its chief elements? We are not able, it may be said, to add to or take away from our stature; we cannot alter the contour of head and face, and cannot train features to beauty of form. These objections are perfectly valid.

At this period of the world's history, after the great fusion of races, or at least, tribes which has taken place in Europe and other places, we cannot expect to find the ideal purity of features which distinguished the natives of classical antiquity and especially the Greeks. Perfect regularity of features or facial beauty from an absolutely artistic point of view, we do not look for, scarcely even desire in man. That which adorns man is the stamp of intellect and strength set upon his face. Beauty in the male chiefly consists in a well developed form and an expressive countenance. Functionally, active facial muscles perpetually responding to the impulse of an active mind, give interest, variety and in a sense beauty to features otherwise of the ordinary type. That intellectual pursuits bestow dignity and distinction upon the human countenance, is a noticeable fact wherever we go.

When we speak of personal beauty it is especially of woman that we speak. In woman a rounded outline, grace of movement, delicacy and regularity of features, fairness of skin, gloss and luxuriance of hair, carry beauty to perfection. Yet even in the fair sex, the charmed beholder seldom pauses or cares to pause to criticise, the form of features animated with ever-varying expressions. Beauty resides in the pure skin, sparkling eye, healthy bloom, pearly teeth and intellectual expression. And these are not fortuitous possessions.

Disregarding for the present the influence of heredity, we may confidently assert that the essential attributes of beauty, depend to a very great extent upon proper food or more strictly upon good digestion. For as I have said before, food though abundant and nutritious may be so poorly prepared that the appetite is not excited, the palate pleased or digestion thoroughly performed.

Perfect development depends upon perfect nutrition. It is certain that nutrition cannot be perfect unless the digestive apparatus properly performs its functions. If the normal proportion of acid and ferment be disturbed in the gastric juice, or if the liver, pancreas, or intestinal glands are deranged, if inactive kidneys and constipated bowels check the elimination of deleterious by-products, the skin loses its softness and the complexion becomes dull. The beautiful violet tinge of sclerotic gives place to a dirty hue, the flashing eyes grow dull and heavy. The cellulo-fatty tissues of the face waste, the features 'grow' thin and wrinkles appear. Eczema, urticaria, erythermia or furuncles may develop upon the face, the hair is apt to become gray and thin and the teeth to decay. The angles of the mouth droop, and a haggard, anxious look replaces the once good health. Irregularity of features which was scarcely noticed when the eye was bright and sparkling, the skin pure and the complexion brilliant, now becomes painfully apparent. It is doubtless true that woman is not to be prized solely for her beauty. Nevertheless her beauty must always be a magnetic charm and is justly regarded by herself as a valuable possession.

Our American women are apt to

fade easily because they are more apt to neglect the laws of health in many ways. Women as well as men participate in and are injured by the great competition and ambitious struggle of our social and commercial life.

DANGERS OF CONSERVATISM IN DIAGNOSIS.

By B. G. R. Williams, M. D., Paris, Ill.

There are two words which startle and bring to the minds of many of us, fears for the future. One of these is, "fogy"; the other is "laboratory."

Suppose that we subject these words to a critical analysis, determine whether or not this state of uneasiness is inexcusable and if so, attempt to eradicate it forever. It is said that worry interferes with the secretion of the gastric juice, and so you know how really important it is to unchain ourselves from this monster—reality or bogie.

Why these fears? Another school, we read, demands that its seniors equip themselves with microscopes, blood counters and similar instruments before receiving a diploma. Another state, we hear, will determine whether or not its applicants are skilled diagnosticians before they are permitted to practice, and that certain practical chemical and microscopic tests will be given to each man. Other journals are recommending that the practictioner inform himself on the more important analytical methods. Other medical societies even in the more rural districts, are taking up regular courses of instruction in diagnosis. Thus, after all, there is a foundation for these fears.

What I shall say below, comes from the heart of a general practitioner who has tested out these things in a neighborhood far removed from the conveniences of a city and knows just what can be accomplished by the man who really is in earnest. For years the older physician has feared (and with good reason) the slow but steady growth of the laboratory idea. Graduating as he did before the days of pathology and clinical chemistry, he has been denied a fair chance. During the past five years, the spread of this idea has bewildered many who have been forced to contend with it, and certainly the progress during this time will be distanced by that of the next year or so. The indications of this are on every side and cannot be ignored even by he who fears it most.

When the laboratory idea was founded by Virchow, Koch, Pasteur, Vaughan and Cohnheim, it was not the expectation that its methods should take the place of those of Hippocrates, Laennec, Flint and Louis, but that the analysis should serve as an aid to the history taking and physical examination. Those who have feared this idea have sought to distort the original plan, preaching and praying) that the laboratory diagnosis was not as reliable as the bedside diagnosis. Suffice it to say that such statements gain but little attention nowadays. It is the future of these very men which is threatened by the modern methods of diagnosis—these men who hearing, do not hear or as Spencer has expressed it, "have shown contempt prior to examination." Attempt to throttle a worthy project and you merely stimulate it to a healthy growth. But enough for this phase of the question.

The fogy accomplishes nothing, but what these younger men do to him is a plenty. He gives Grandma a hogshead of bitters for her "dyspepsia," and then one of these fellows removes enough rocks from her gall bladder to cover the bottom of her goldfish basin. After he salivates Grandpa with mercury, the "boy" proves that the disease is not syphilis but typhoid. He takes the leson to heart and avoids the use of this drug in Bily Green. But growing worse Billy consults the new doc-

tor who finds spiral germs in the "chancroids."

The younger man demonstrates cancer cells in the womb scrapings of the woman with the "endometritis," diphtheria bacilli in the throat of the child with 'tonsillitis" (which explains to the villagers the spread of this disease in their community and several deaths where antitoxin was not used), absence of germs from the throat of the business man with diphtheria" (removes the unjust quarantine) and granular casts in the urine of a man with "malaria."

He removes a rotting appendix from the case of "kidney stone," and when the fogy presents his bill, the patient shows him the pickled organ. He places the young lady with "pernicious anemia" on a tuberculosis treatment and bids her hope. And thus I could proceed page after page, quoting real instances.

Well, what are you going to do about it?

What can you do about it?

Suppose we let Osler give us an opinion:—"Just as the clinical laboratory is a nescesity to the hospital physician, so the private laboratory is indispensable to the everyday work of the busy practitioner. This work will be done more and more when we send out our students familiar by long practice with the use of the microscope and other instruments of precision. Asked the simple and most powerful weapon in the hands of the profession against quackery of all sorts, I would answer, the little laboratory attached to the office of the busy practitioner. Nor is it asking the impossible.

And in this last sentence, Osler answers that it is possible to eradicate this "great fear," and revive once more the normal flow of our gastric juice. Suppose that some of these tests cannot be applied to the general practitioner; does that damn the entire lot? Strangely enough, the tests which really aid the physician are after all, the simple ones, and they may be applied successfully by the man whose diploma was issued twenty-five years ago. And more, he will grow enthusiastic in their application. The actual cost will be small and the profits surprisingly large.

I have been intensely interested in the subject of the practitioner and the medical laboratory for the past few years, have proved many of these points in my own work and in a rather extensive correspondence with physicians who, practically without experience are informing themselves upon these matters. In an article of this scope, I can merely point out the chief facts concerning the situation and make a plea to the man who risks the danger of becoming a fogy. But I shall consider it no inconvenience to answer any question which I may be able to do, providing a man is sufficiently interested to enclose his return postage. Many men begin by purchasing expensive or impossible apparatus and literature intended for the student and research worker, and thus quickly become discouraged.

The man who really does not intend to become shelved in the prime of his practice has nothing to fear. However if he procrastinates, he is surely lost. Even though he has been lucky thus far, tomorrow morning he will be forced to compete in a contest in which he will certainly finish loser. The man who lays his head on his pillow tonight to think it over, will lose. Start today if you would save your future:

Said yesterday to tomorrow,
"When I was young like you
I, too, was fond of boasting
Of all I meant to do."

—The Pacific.

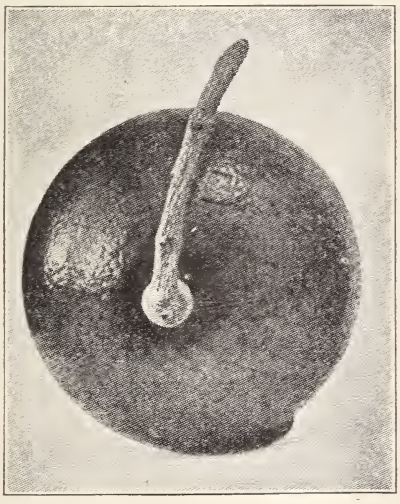
So much for the man with the "great fear" and the gastric hyposecretion; but there is another and a nobler side. Medicine is exactly what we, the disdisciples of Esculapius, make it. Even though our future were insured, yet we

should ignore nothing which may be of benefit to our patients and which will bring honor to the our chosen profession.

THE KAFFIR ORANGE.

A new food product of special interest to physicians is the Kaffir orange described by Dr. J. K. Small in the Journal of the New York Botanical Garden.

Reports and records of edible fruits of Strychnos or fruits closely related to those of strychnine and nux-vomica plants, have been current for many years. They, however, have often been seriously doubted.



In the spring of 1903, Dr. David Fairchild introduced plants of a species of Strychnos from Portugese East Africa, into the Subtropical Garden of the United States Department of Agriculture at Miami, Florida. These plants are said to represent the species Strychnos spinosa. This plant is native of a large part of Africa lying south of the desert region. At Miami it is a spine-armed shrub of slow growth, especially in its younger stage, with a rambling habit, more or less drooping, very slender branches, small leaves, and very small, as well as inconspicuous, clustered flowers. The size of the branches, the leaves, and the flowers are each and all out of proportion to the size and the weights of the fruits. These are globular, and superficially they resemble an orange, even to the external coloring, whence, in connection with its geographical range, the name "Kaffir orange." The fruits vary from three to four inches in diameter and weigh between one and two pounds each. However, the likeness to an orange ceases with the outside of the rind. This cannot be removed with the fingers or with a knife, as in the case of an orange, but a hammer or some similar instrument is neded to get at the pulp within the "Kaffir orange." The rind is about an eighth of an inch in thickness, hard and somewhat brittle. Within, the fully ripe pulp is of different shades of red or pink. It is sweet, and in flavor it suggests that of a good canteloupe. Unlike an orange, too, the seeds of the "Kaffir orange" are poisonous, so that in eating the pulp in which the seeds are imbedded, great care must be taken to eliminate all the seeds. The seeds closely resemble those of the related nux-vomica plant, and thy are rendered especially easy to swallow by a slimy-hair coat which envelopes each of them.

The accompanying figure representing the two specimens of "Kaffir orange" received at the Garden through the kindness of Mr. Edward Simmonds, Gardener of the Subtropical Garden of the United States Department of Agriculture at Miami, Florida, is as far as we know the first illustration of this interesting edible fruit. The fruits as they appear in the figure are about one-half natural size.

THE DOCTOR AS A DENTIST.

By W. T. Marrs, M. D., Peoria, Illinois.

The time was, and not so many years distant, when the general practitioner did most of the teeth-extracting. Now it is unusual for the physician in general practice to resort to this form of dental surgery and the majority of medical men do not equip themselves with a tooth-pulling outfit. The reasons are of course quite obvious: Dentists are much more plentiful than formerly and people now live closer together, and with increased facilities for travel the dentist's office is within reach of almost every one.

Again, teeth-extracting is not nearly so common as formerly and the fool advice of friends regarding an aching molar, to "have it out and be done with it," is not now so generally practiced. Barrels of reasonably good teeth have been in the past sacrifieed when a little attention on the part of the dentist and a consequent outlay of a few dollars might have saved them for many years.

The physician has in the past been somewhat derelict in his duty regarding the teeth of his clientele. The dentist's speciality is one that receives scant mention in medical literature, although the matter of good and serviceable teeth is one that no one questions. The relation of indigestion, nephritis, rheumatism and a train of disorders in which perverted metabolism plays a significant causative role is one of the most vital importance. Dental work may now be classed as an art which has well nigh reached a stage of perfection. The increase in longevity and the passing of many of the diseases of the autotoxic and metabolic class may be attributed in a goodly measure to better attention to the teeth than in former years. It is said that people no longer become old—the senile, doddering sort of old people. This is at least partly due to better dentistry and beter opthralmology.

The general practitioner should better acquaint himself with the teeth and oral hygiene; not for the purpose of poaching upon the dentist's preserves but that he may do better work together with that individual and in doing so further the patient's health and comfort. A great many pathogenic organisms find lodgement in the mouth and about the teeth, perhaps in a state of quiescence only awaiting some condition of lowered vitality when a pathological process is set up. Ulcerated and decayed teeth are a menace to life because they furnish a door for the entrance of toxines or pathogenic germs into the blood.

Mouth hygiene is a thing that should be urged upon all our clientele whether they be sick or well. Two conditions of the mouth—warmth and moisture—make it an ideal place for the breeding of germs. Pyorrhea and gingiivitis are the cause of much suffering. Sometimes these troubles may be treated successfully by the doctor, but often the services of the dentist will be needed. We should urge upon our patients who need dental treatment to call upon the dentist early. By so doing the expense will be less, the suffering reduced and, most important of all, the work will be more satisfactory to themselves.

While the general practitioner should not attempt to usurp the dentist's job, yet he should at least qualify himself to render first aid in painful dental affections. Should he extract teeth? I believe he should be prepared to do so. Tooth-pulling is not such as intricate proceedure and does not require great skill and technique. The most important matter is to decide is whether the tooth needs to come out or whether it can be saved for further usefulness.

Personally I can state that I picked up the art of tooth-extracting quite

readily while engaged for several years in a rural practice, notwithstanding that I rank myself a little above the average in general awkwardness. Four or five pairs of forceps are all that the general practitioner requires. The important thing in the technique is to sink the blades well down in order that they may grasp the constricting neck of the tooth. The amateur fails to do this and the tooth snaps off. A shaking or rotating motion loosens the tooth in the process and strong traction is to be avoided.

The gums may first be infiltrated with water to which a safe amount of cocaine or some of its "safer" derivatives has been added. The ethyl spray is usually satisfactory but I have found it expensive. To much freezing may cause sloughing.

In relieving an aching molar before inserting pain-relieving agencies try to open up the cavity. The escape of a little toxic gas may be all that is needed.

Everything is "good for" toothache —clove oil, chloroform, cocain and every other local anodyne. Gum camphor and choral dissolved in carbolic acid is very serviceable, I have found, and it is not corrosive.

CASE REPORTS.

By L. A. Edgerly, M. D., Amherst, Maine.

I will report a case that may be of interest to your readers:

Infant about 9 weeks old; developed icterus 3 or 4 days after birth. Mother had very little milk and decided to bottle-feed it. Appetite good all the time; stools colorless (milk white) partly and partly colored a bright green, (a mere smear); tympanites; quite marked; marasmic condition developed; urine yellow. (At end of 6 weeks) (—or perhaps seven weeks the icterus was very marked, skin and conjunctiva being very yellow.) I gave the following treatment: a few 1-20 grain tablets of calomel and soda in warm water (hot as the baby would permit) bath night and morning; small doses of sal epsom daily for few days; tympanites remaining, I gave drop doses of turpentine in milk. a. m. and p. m. for few days, by which tympanites was considerably reduced. Food all this time consisted of cow's milk, cream, milk, sugar, lime water and water. No great improvement resulting, I put the baby on a certain patent baby food, (this about two weeks ago) and improvement was noted in a very few days. For the marasmas I am giving Syr. Fe. Iod. drop one, a. m. and p. m., p. c., and innunctions of cod liver oil. The bile is apparently leaving the tissues, (the icterus is disappearing), the stools are normal. I might add that the mother is said to have had several attacks of jaundice. There was some tympanites at my last visit due in part at least to a return to the former diet, the stock of the special patent food having become exhausted. If the tympanites persists, what shall I do? Also any other suggestions will be considered gratefully. I would like to ask the fraternity about a horse that I have, that is lame, very lame in the left gambrel or hock (?) joint. The bones forming the joint are considerably enlarged, and it is hard, (of course). After he is driven a while he does not limp nearly as much; but if he stubbs it (that foot) against a rock, it seems to hurt the joint and he limps very badly for a minute or two. Can any of the readers of the W. M. R. tell me what to do for it?

Mrs. A. H. C. age 47.

A case which I wish especially to ask you and the W. R. or W. M. R. about is in regard to a sister of mine, who lives in a western city; another case of icterus. As reported to me: Had 2 or

3 attacks, a year more or less apart. Very severe pain in last attack last winter. Was operated on and 3 large gallstones removed; considerable adhesions, all of which was "lifted" that was deemed advisable. Briefly, wound must be kept open and bile allowed to keep draining away, as its closure is quickly followed by much pain, every time. Reports she is "up around" and does some light work. Now is there any medical and dietetic treatment that can avail in her case (to favor the opening up of the duct Com. choled.,? which must be stenosed, or rather, occluded)? She dreads another operation (to do what could have been done at the first operation (?) I suggested large doses of glycerin; rectal feeding; and electrical treatments applied to region of common duct; and vibration. I would say that none of this treatment has been tried, she "deciding to take the medicine, etc., of her family M. D."

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DANGER IN FLUORISCOPY.

By W. R. D. Blackwood, M. D., Philadelphia, Pa.

I am glad to read the paper on this ject in the July "Record" because of the caution given by the writer to those doing work in an extended way of the imminent danger likely to occur under prolonged exposures of both operator and patient. I have warned those unacquainted with these dangers repeatedly and have had letters asking further points, or thanking me for what I had said, but once in a while some fool who knows nothing about the physics of electricity, butts in with criticism showing his complete ignorance of the matter, and usually telling readers to pay no attention to those who warn experimenters, and occasionally such communications do harm through getting new beginners to listen to such rot.

Dr. Bennett speaks about cutting off part of the ray by the use of a brass sheet, but I have found that one of lead is preferable. I have three which contain an iris diaphragm that can be arranged to open the hole from a quarter of an inch to one four inches in diameter, thus giving us a limitation of area exposed to the ray, and preventing trouble beyond the part which we wish to be influenced by the exposure. One allows a range of a quarter of an inch to an inch and a half, another an inch to two and a half—the third two to four inches. The only objection attending this method is the weight of the diaphragms, but this is obviated by supporting them in front of the apparatus near the point rayed.

Since warning readers about the dangers of "X" rays, two deaths have taken place to my knowledge, and I have read of others—one of these being a medical friend—the other a dealer in electrical goods. Except in the hands of one thoroughly expert the ray is a menace which should be kept away from, and fulminations from those who cannot possible have the practice they boast of because no little corner hamlet could furnish a hundredth part of the numbers they brag of handling, ought to be left unnoticed. The "X" ray is all right as a detector of imbedded foreign bodies and for photography, but it is beter avoided than fooled with if you care to keep well yourself, to work no injury to your clientage.

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THE ICE BAG IN APPENDICITIS.

In a most interesting article by A. M. Fauntleroy, Surgeon of the United States Navy, Medical Record, Aug. 3, 1912, the fact is brought out, basing the same upon a large number of cases of appendicitis operated, that the ice bag is positively harmful in this condition. In 50% of the cases operated, where the ice bag was used, the condition seemed

to indicate that there was a noticeable lack of effort on the part of nature to wall off, from the rest of the abdominal cavity, the appendix, which was frequently very much congested, gangrenous or perforated. He also observed that in the ice bag cases there was a surprisingly low white cell count when one took into consideration the condition found in the abdomen at the time of the operation. From 8,000 to 11,000 white cells was the rule in these ice bag cases when one would be justified in saying that the pathological condition waranted a constitutional reaction of from 20,000 to 30,000 leucocytes, or even higher.

On the other hand, in those cases in which the hot water bag or morphine had been used prior to operation (the ice bag not being used at all), the white count corresponded to what one would expect. Dr. Fauntleroy advances from his findings the logic that while the ice bag causes numbness, practically the same as in the condition of frost-bitten ear or toe, it also decreases hyperemia, leucocytosis and stasis in the part to which it is applied. That heat is the direct antithesis of cold in encouraging favorable physiological action in inflammatory processes, whether superficial or peritoneal, seems to be from his report most logically and conclusively proven.

In applying heat whether it be for peritoneal or inflammatory conditions of a more superficial character, the most rational method is to use that which is not only sanitary, but, for the comfort of the patient does not require frequent changes.

♣ ♣ ♣

The accompanying skiagraph is of a fore arm fracture occurring in the practice of Dr. S. A. Oren & Son of Lewistown, Ill. They take their own X-ray pictures of all such cases that they attend, and they say "it saves us lots of trouble," furnishes perfect proof of the great value of this manner of assisting in the correct diagnosis of fractures and of the progress of the case at all stages, confirming or disproving the belief of the medical attendant that the dressings employed were keeping the ends of the fractured bones in proper apposition and that union is taking place as desired and expected. While, if this is not the case, proper surgical attention can be given and measures employed to secure a good and satisfactory re-

sult finally. Such photographs are not only of much value in the treatment but they are a great protection against unjust suits for malpractice and we repeat our advice to get photographic and X-ray pictures of all important accident cases, with emphasis. We are very glad to get them to publish in the "Recorder." —J. V. S.

The Wisconsin
Medical Recorder

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We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 SEPTEMBER, 1912 No. 9

EXAMINATIONS BY STATE "BOARDS" OF MEDICAL EXAMINERS.

The last ten or fifteen years, has been marked in the annals of the medical profession, by the more general adoption of the granting of licenses by State "Boards" to practice medicine and surgery only after an examination has been held. All of those who have the best interests of the profession in mind and desire to see higher standards of medical education and practice prevail, have been in very hearty accord with and have earnestly helped to secure the passing of laws in the several states, designed to secure this. Most of the laws are equitable and well-calculated to accomplish the result aimed at. However, it is manifestly true that there is a wide difference between the enactment of laws and the way that they are administered and interpreted, sometimes. One very serious error has made its appearance regarding the intention of the laws, which were made for the purpose of testing an applicant for a licence sufficiently, to find out if he has had the requisite training to prepare him to be a safe medical attendant upon those who are suffering from diseased and accidental conditions affecting their health or endangering their lives, and not to measure his ability as a "specialist" in each of the many divisions that the study and practice of medicine is now separated into, as seems to be the way some boards are interpreting their function and jurisdiction, in the case. It certainly never was the intention of any one who supported said laws or assisted in prevailing upon legislators to pass them nor of the law-makers themselves, to have them so administered that they would be made use of to lessen competition, by refusing to license men, often much better qualified, by longer periods of study and better teaching and facilities of every kind than are the ones comprising the examining board, or evn a single member of the board. Neither should prejudice control to the extent of refusing a license to graduates of certain schools or colleges, without the most painstaking and careful personal inspection of said institutions of learning, and finding them to be actually deficient.

Members of some of the boards have frankly stated to prospective applicants, it wil be no use for you to try to pass our board. When asked why, it has been said in explanation, "because neither you, nor any other doctors are needed or wanted in our state, we have enough now." Very many medical boards have been and will be composed of men who spent two or possibly three years in a medical school, with much less clinical opportunities and instruction than those have whom they examine. With questions prepared, because

they look 'hard,'' regardless of their practical value and of whether the examiner could answer them himself or ever found it necessary to have the required knowledge to use in his practice, they are used to ''catch'' the new ''medic,'' who has also had to have a fixed preliminary education, often far in advance of his examiner.

Recently a new idea has sprung up, called a ''practical examination.'' Much was claimed for this, but it has been so conducted in some instances as to be a ''farce'' rather than of any help in determining whether the applicant ought to have a license or not and to help some states have the very unenviable reputation of refusing licenses, because when this has reached a certain point, new doctors will give that state a wide berth, not always because they are afraid of the examination, but because they do not expect to get a ''square deal,'' that all true Americans like to have, in all cases. Under present systems of medical education the curriculae are so arranged that all of the fundamental studies are entirely finished the first two years, the college examinations are held and the student passes or fails. After this there are two very strenuous years of clinical and didactic work, most of which is entirely separated from the technicalities of the scientific branches of the first two years. Much of this work is so technical and of value chiefly because of its training the mind, rather than for any practical value it possesses and if another extremely technical examination is to be conducted by medical boards as several now propose to do, and are doing, then in fairness to the applicant, he ought to be permitted to take that portion of his examination when he has finished the work in college and have it done with, finishing the examination on the other subjects after graduation, we think, as some states are doing now.

We fully believe in a sufficiently thorough and practical test to determine whether the applicant for a license is a 'safe'' ''Doctor,'' but we are not in sympathy with the extreme and radical methods used in some cases, nor in the abuse of the power of the law, when made use of to throttle competition.

Why should so much more be required of the applicant than the examiner has had to give to his patrons?

There is quite a tendency to show to the legislatures of some of the states how this is being done and to ask them to properly amend or to repeal present laws. As one who was in the very forefront of the fight necessary to secure the passage of the laws now upon the statute books of this state and who helped to administer them for eight years it seems necessary to us to sound this note of warning, as to the administration of the medical law, though the items cited above are not true of Wisconsin, except to a very limited extent, we think.

—J. V. S.

The Denver Chemical Mfg. Co., manufacturers of Antiphlogistine, are to be congratulated on securing the services of Mr. Harold B. Scott as Manager of the Company, to succeed J. C. Bradley, who is retiring from that position.

Mr. Scott is a bright, energetic young man, a graduate of Yale University with the degree of A. B. Upon his graduation from college, he entered the commercial world where he has enjoyed a wide, varied and successful experience in developing one of the great industries of our country. He is peculiarly well fitted for the management of a proprietary house, and his connection with Antiphlogistine will doubtless lead The Denver Chemical Mfg. Co. to spell success with larger letters than ever before.

THE DOCTOR'S LIBRARY

We have received a copy of the second edition, 1912 issue, of Electricity in Gynecology, by May Cushman Rice, M. D., Chicago, Ill., Professor of Gynecology and Clinician in the Illinois School of Electro-Therapeutics, Member of the Chicago Medical Society and the American Medical Association. L. I. Laing & Co., 322 W. Washington St., Chicago, are the publishers. The popularity of the book, requiring a second edition to supply those, who wished to purchase it is a true indication of its real value. It is the best book for the average general practitioner that we have ever seen, on this subject. The author dos not deal in generalities and leave the reader to work out the rest of the problem themselves, but on the contrary gives clear and easily understood and explicit directions as to the technique of all cases, where there is a good prospect of affording relief or permanently removing the pathological conditions existing. Neither does she recommend this mode of treatment as a cure-all nor as applicable to every case, but helps the observant reader to decide which cases can be helped in this way. The book differs so widely in this respect from some others on the same or similar subjects that it leads us to the more cordially recommend it to the profession.

The preface to the first edition is a very instructive presentation of the use of Electricity in gynecological work, One expression is indicative of the author's attitude, which we have heretofore endorsed, viz.: "We wish it distinctly understood that our attitude is electricity for the patient and not the patient for electricity, neither do we wish to use it when another agent is to be preferred." There are sixteen chapters in the book. Some of the topics separately treated are: General Characteristics of the Various Currents, Practical Points in Applying Electric Currents, Abnormalities of Menstruation, Inflammations of Uterus, Ovaries, Tubes and Pelvic Cellular Tissue, Vagina and Vulva, Neuroses, Displacements, Neoplasms, Lacerations, Carcinoma, Constipation, Haemorrhoids, Stricture of Rectum, Urethritis and Premature Menopause, etc. There is an excellent index and about 150 pages in the book. —J. V. S.

In order further to popularize the demand for bacterins—(Bacterial Vaccines), and enable physicians to make more general use of these products, we call attention to the downward revision of prices on Mulford Bacterins, effective August 5th.

The Mulford Bacterins are in every case "polyvalent," which means that the bacteria contained in a Bacterin, although of the same species, are obtained from many different sources. For instance, Strepto-Bacterin is polyvalent, the bacteria used for its preparation are all streptococci and are isolated from different patients suffering with streptococci infections among which may be mentioned puerperal sepsis, general septicemia, erysipelas, tonsillitis, empyema, cellulitis, etc.

A number of the Mulford Bacterins are "mixed" by which is meant that they contain the various bacterial species generally present in a mixed infection. For instance, the mixed Vaccine of chronic gonorrheal infection, besides the gonococcus contains various staphylocci, colon bacilli streptococci, other organisms isolated from cases of chronic urethritis and prostatitis.

In some cases, disease from their inception are due to mixed infections, while in many others the infection becomes a mixed one as the disease develops. Past experience and results have fully established the advantages claimed for these "polyvalent"

Wisconsin Medical Recorder

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VOL. XV OCTOBER, 1912 No. 10

GLYCOSURIA AND DIABETIS

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

It would scarcely seem necessary to call attention to the fact that these two terms are not synonymous, and yet we come in contact every now and then with some one who considers them identical. While glycosuria is one of the cardinal symptoms of diabetes mellitus, it alone does not constitute the disease. The elimination of glucose by the urine must be persistent, extending over a period of weeks, months or years, before a diagnosis can be made from it alone.

Glucose may make its appearance temporarily in the urine of any healthy person. Whenever the power of assimilating carbo-hydrates is exceeded, the excess will be eliminated. This is alimentary or digestive glycosuria, and will disappear as soon as the system has unloaded the excess sugar. It is probable that every individual has his or her limit in the ingestion of sugars and starches, beyond which glycosuria will appear. In such a case the finding, while, of course pathological, is not of any serious importance if the diet is corrected.

The temporary glycosuria occurring sometimes in acute fevers, especially during convalescence, is more difficult to explain, but must be borne in mind. Under this heading would also come the temporary excretion of sugar found in various injuries and disturbances of the nervous system, especially the floor of the fourth ventricle. Injuries of the latter region seem to upset the metabolism of sugar to a marked extent. This is the so-called central glycosuria.

And occasionally we find a totally unexplainable glycosuria in stout people, which is also of a transient nature.

Other sugars are occasionally found in the urine, and by their similar chemical behavior may be reported as glucose by inexperienced observers. The only ones deserving of notice are lactose and the pentoses, the others having little if any clinical significance.

Lactose is not infrequently found in women during the later stages of gestation or during lactation. This is of course due to resorption of lactose from the milk in the breasts, especially when the supply exceeds the demand, or when an obstruction to the free outflow of milk through the nipple exists, as for instance mastitis. Years ago the finding of lactose in the urine was considered presumptive evidence of an ample milk supply, which was probably true in some cases and untrue in others.

The significance of pentoses is not clear. That they appear in the urine after ingestion of certain fruits, such as plums or pears, also after drinking beer, has been often reported. Late researches have shown that they may be produced by the splitting up of certain nucleo-proteids. At present their chief clinical interest lies in the fact

that they may be and often are mistaken for glucose.

All of these sugars reduce the copper or bismuth solutions generally used in urinary analysis, hence the frequent mistakes. We have, of course, various methods of differentiating them, which should be in more common use. The osadones formed with phenyl-hydrazine differ markedly from each other. Besides this, we have Barfoed's reagent, which is reduced by glucose only, and the yeast fermentation test, which again responds only to gluoces, not to lactose or the pentoses. By the employment of the phloro-glucin test, the pentoses can always be easily identified.

That glucose is the final end-product of carbohydrate digestion seems unquestionable. The fact that an excess of this end-product should be immediately eliminated by the proper channels is also plain enough. In view of this it would only seem reasonable to suppose that when the supply of carbohydrates is diminished or even reduced to nothing, that a corresponding reduction should take place in the formation and consequent excretion of glucose. But this is not always the case.

It is very likely that even on a strict carbohydrate-free diet, glucose may continue to be formed and thrown into the circulation for some time, from the stored-up glycogen in the liver. But all things must eventually come to an end, and in the absence of starch and sugar in the diet, no more glycogen should be stored to take the place of that which is used up.

Still we are confronted by the fact, that is, in cases of diabetes mellitus, where carbohydrates have been religiously excluded from the diet for long periods of time, that the formation and elimination of sugar persists in spite of the diet. It is not possible to store enough glycogen to account for this persistency.

Consequently but one answer is available. In spite of the absence of carbohydrates, glucose continues to be formed. Consequently it must be formed from the proteids. This view is supported by the fact that the usual end-product of proteids—urea—is in such cases often reduced.

It would seem that the power to form glucose from proteids exists in the body, but is held in check in some manner. When this check is removed, diabetes results.

Probably the explanation may be found in the internal secretion of the pancreas. Let us assume that it is the function of this secretion to prevent the metabolism of proteids into glucose. Then, if this secretion be abolished or otherwise interfered with, by pancreatic disease, for instance, diabetes would result.

The remarkable experiments which have been made along these lines are well known. If the pancreas is completely removed from a dog, sugar soon makes its appearance in the urine, and the animal shows all the symptoms of diabetes, especially emaciation. It is necessary to remove the whole gland; ligating or otherwise occluding the duct does not produce the condition. And if only a small portion of pancreatic tissue be left the symptoms are slight and temporary, or do not appear at all. This happens even when the remnant of pancreas is removed from its normal location and grafted somewhere else in the body of the dog. If this transplanted portion be subsequently removed, the symptoms appear almost immediately.

Clearly then the pancreas furnishes to the circulating blood some substance controlling the formation of glucose; at least its formation from proteids. It would be difficult to prove that all true cases of diabetes mellitus are accompanied by pancreatic disease, although if the attempt were made, most of them would be found to be. Owing to the long drawn out course of the dis-

ease, and the lack of post-mortem examinations, much otherwise valuable information is at present unavailable.

If this influence of the pancreas on sugar metabolism exists, and we have no reason to doubt it, the commonly adopted custom of withdrawing all carbohydrate food from diabetics is not only useless but even criminal. It has been proven time and time again that while the urinary output of glucose will at first decrease under such a diet, that it will invariably rise to a higher point than before, in spite of the diet. And sooner or later the danger signal of carbohydrate starvation — acetone — will make its appearance. We are often told that the finding of acetone in diabetes is a grave symptom. But we are not told that it is due to the irrational diet inflicted upon these unfortunates.

Of course, it would be highly injudicious to allow a diabetic to eat excessively of sugars and starches. But these should be given cautiously, until a point is reached, easily determined by periodical examinations, where they increase the glucose in the urine. Having reached this limit of toleration, as we may call it, we may now turn our attention to the proteids, which are always fed to an excessive degree in this disease. And here we may use the pruning knife with much satisfaction and considerable good results, as a great many of the disagreeable manifestations of diabetes are due not to the disease itself, but to the excessive protein diet and lack of carbohydrates.

Some of the tests at present in use for determining the presence of glucose in urine are highly inefficient. This applies particularly to the various tests depending on the reduction of copper. This metal is very easily reduced, and substances occur continually in the urine which may at any time, if in sufficient quantity, simulate glucose by reducing the copper solution. Among the more common of these are uric acid and creatinine, while among the less frequent are glycuronic acid, alkapton, etc. To these may be added the various other sugars already mentioned, such as the pentoses and lactose. On the other hand, the presence of albumin interferes with the tests by

Somewhat more useful are the tests preventing the reduction of copper. depending upon the reduction of bismuth. This metal, less active than copper, is less easily influenced to give false reactions, except with the sugars, in which respect it is no better than copper. In a general way, if any albumin present be first removed, the bismuth tests, especially where the bismuth is in solution, like Nylander's, are fairly reliable.

There are other excellent tests, of great exactitude, but the high cost of the reagents or the long time required for the test make most of them impracticable from a clinical standpoint.

For estimating the quantity of sugar, we have very few methods to choose from that come within clinical specifications for time or expense. The fermentation method used with the saccharometer, while excellent for differentiating purposes, is far from quantitatively correct, and requires the greater part of 24 hours to get results. Taking everything into consideration, we are forced to fall back on the copper tests for this purpose, which, if the material being estimated is known to be glucose and nothing else, are very exact and require but little time.

The difficulty of obtaining an endpoint in the Fehling and Haines methods is a great objection. Owing to the necessity of keeping the reagent at a boiling point, the precipitated suboxide of copper suspended through the liquid makes it necessary to stop boiling from time to time and allow the precipitate to settle, in order to obtain a reading. Thus much time is wasted.

The fault has been largely overcome in Purdy's solution, which contains ammonia. The latter reagent has the

property of keeping the cuprous oxide in solution, consequently a very sharp end-reaction can be obtained, without any interruptions. It seems difficult to understand why operators persist in using the old, tedious and unsatisfactory methods.

There is no reason why correct results should not be obtained in every case by using the bismuth test for qualitative examination, excluding albumin, of course, and estimating by Purdy's method.

DEPT. OF SURGERY

By Hugh N. MacKechnie, A. B., MD., C. M., Chicago, Ill.

THE PREPARATION AND CARE OF OPERATIVE CASES.

The problem of writing something new on a subject which has been worn threadbare by surgeons in the past, is a difficult one but the everchanging methods, the endeavor to find something new to alleviate the suffering, the continual reversion to previous almost forgotten methods makes one feel that there is yet much to learn and much to strive after before the operating table and the hospital convalescing room have lost their terrors for mankind. Moreover to the order loving individual there is often a desire to correlate the many systems of treatment and to bring order out of what is almost chaos.

There is no doubt in the mind of anyone who looks at the matter without bias that surgery is a great boon to humanity; but, there is no doubt in the mind of anyone who has gone through the experience of an operation that there is still much to do to perfect this boon. There is no doubt in the mind of even its most severe critics, of its value in a vast number of cases and they are all happy that it presents an opportunity to alleviate their sufferings or to prolong their lives; that although many cases die annually from the shock of the anesthetic and of the manipulation, yet, so many more are relieved of conditions which would otherwise prove fatal or incapacitating that the practice of surgery is increasing in popularity and efficiency.

One who is constantly caring for these cases in hospital practice and who is seeking their welfare must be daily confronted with the problems of their suffering and be looking for means for their alleviation. How can the terrors of the anesthetic be eliminated? How can the awful post operative thirst be avoided? How can the depression, the headache, the tympany and gas pains be escaped? How can convalescence be shortened and the muscular flaccidity of the prolonged recumbent position be avoided? In other words how can the patient be given the benefits of surgery and be restored to the greatest degree of convalescence or if possible to health in its true sense, in the shortest possible time, and at the same time, avoid, if not completely, at least in large measure, the factors which go to make surgery so much dreaded?

These are problems in surgery and they should receive as much consideration as manipulative treatment for it is as important that the body energy as a whole should be conserved as it is that local pathology should be recognized and removed.

A consideration of these demands an oversight of the patient by the surgeon for several days and, in many cases of toxemias, even weeks previous to the operation.

Many of the history sheets of our hospitals would read graphically like this: examination of patient Jan. 10th revealed so and so, indicating such and such an operation. Patient entered hospital later in the day; was given a purg-

ative and enemata; was kept awake most of the night by the administration of drugs and by poultices and scrubbing, etc.; at six o'clock in the morning was given a cup of coffee; at ten was taken to the operating room weak and weary, almost choked into insensibility and operated upon; recovered from the anesthetic, parched; then became markedly tympanitic and suffered for one or more days till flatus passed and relief appeared; remained recumbent for two weeks and almost fainted on first assuming the erect posture; two weeks longer to harden the muscles sufficiently to walk readily or to leave the hospital when he was dismissed by the surgeon. Is it any wonder that we do not always get desired results or that our prognosis is much brighter than our realization and that our patients are not always enthusiastic. In most cases a different condition should prevail and it is our duty to see that it does.

The first point I seek to carry out is a careful preparation for days previous to operation. This may be done in the hospital or in the home under the supervision of the attending physician who will rise in the estimation of his patient for his pains.

A great majority of people are suffering from an excess of protein extractives and acidity due to a too free use of proteid diet and a deficient intake of liquids. This fact a careful urinalysis will reveal and repeated analyses will indicate the changes produced by the treatment instituted. The following regime will be found of great use in a large number of cases with individual adaptations. A light diet that is almost wholly carbohydrate and fat in character; liquids especially water 2000 cc daily; a mild saline laxative and diuretic such as sod phos, sod sulp., sod bicarbe and sod citras, aa oz. three times daily in a glassful of water; a saline bowel flushing at night; ten hours hest bowel flushing at night; ten hours rest air and moderate exercise.

We have then a decrease in the proteid intake with a rapid decrease of extractives relieving the kidneys. We have a much larger amount of water than usually taken which will dilute the concentrated toxins and flush out both kidneys and bowels; we have a mild laxative which with flushing keeps the bowel clear, a mild diuretic and antacid which improve and increase the urinary output and lastly we give the body a good rest and sufficient oxygen to oxydize the food ingested with a resulting improved nutrition and decreased extractive waste.

In other words we are putting the whole digestive secretory and excretory organs in such a state that they can readily accept the burden of an operation without being overcome by it. It is unwise to give a patient on the day preceding operation a severe purgative whose effect is ending and from which reaction is setting in about operationg time and during the time of shock with a resulting marked intestinal dilatation stasis and tympany. It is more rational to give a mild laxative an hour or two before anesthesia is commenced that its action may be of some value in overcoming the post operative stasis.

This treatment will decrease the bowel content, will decrease the bacterial count and the putrefactive product and will decrease the gas production during the bowel stasis following upon manipulation and the congestion due to the anesthetic. There will also be much less vomiting and an earlier peristaltic action with earlier fecal elimination.

(To be Continued.)

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"This is a fine old world to work in,
For the things that should be won,
But a poor old place to shirk in
While so much remains undone.
It's a good old word to belong in,
And a fine old world to be strong in,
But a poor place to go wrong in,
Don't ignore that fact, my son."—ANON.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

REMARKS ON TUBERCULOSIS OF OF THE FEMALE GENITALIA.

There have recently appeared in the Archiv fur Gynakologie two articles on tuberculosis of the female genital organs based on post-mortem studies of nearly 10,000 women and girls. Schlimpert of Dresden based his work on 3,514 autopsies, and Simmonds of Hamburg founded his on 6,000. Clinical observations are often misleading and the examination of internal genitals removed at operations gives little idea as to the relative importance of genital tuberculosis and that of other organs. These researches, based on exact anatomical observation in the dead-house shed some new light on the subject.

Schlimpert's material came from a people deep in poverty. Of his 3,514 subjects, 2,173 had tuberculous lesions of some sort; in 84 per cent. the lung was affected; in 32 per cent. the alimentary tract; in 5 per cent. the peritoneum; 3.5 per cent. of his cases showed tuberculosis of the genitalia, namely, seventy-three of the 2,173. Simmonds, in 6,000 autopsies on the bodies of females, found tuberculosis of the genitals in eighty, namely, 1.33 per cent. Schlimpert's cases of genital tuberculosis were 2 + per cent. of all cases examined. Schram, who reported in 1882 the results of a study of the post-mortem material of the Dresden institution, found tuberculosis of the genitals in thirty-four out of 3,386 female cadavers examined, namely, 1 + per cent.

In nearly all of the cases there is tuberculosis of the lung; in 11 per cent. of the urinary system; in 60 per cent. of the peritoneum. In most instances the older lesions appear to be in the other organs than the genitals. The cheesy deposits and the cicatrized foci are usually found in the lungs or in the mesenteric glands, while the nodular tubercles and the bacillary catarrh will be found in the tubes or the uterus. Often, indeed, there will be also fresh tubercular processes manifest in the respiratory or alimentary organs.

When we come to consider the different organs of the genitals in connection with tuberculosis we find that the tubes lead in frequency, the uterus comes next. In half of Schlimpert's cases the uterus and one or both tubes were simultaneously affected and in two-thirds of those of Simmonds. Isolated tubercular infection of the vagina occurs in less than 5 per cent. of genital tuberculosis and even infection of the vagina in company with that of other parts of the genital tract is uncommon. Of all the genital organs the ovaries are the least liable to tubercuous disease, according to the observations of Simmonds and Schlimpert. Other authors, not basing their conclusions on anatomical material, however, give much more importance to ovarian tuberculosis, estimating it to occur in from 33 to 60 pe rcent. of genital tuberculous cases.

Tuberculosis in the tubes causes thickening and increased torsion with formation of creamy or cheesy contents. In half of the cases the abdominal ostium is found open. In many there are extensive adhesions of the tubes to the surrounding organs and to each other. The process appears to be of greatest intensity at the abdominal end of the tube. The uterine end is often free, even when examined microscopically. When the ostium is closed, there is frequently considerable dilatation of the ampullar end. The general appearance is often like that of

any pyosalpinx. One-quarter of the adnexa removed at Martin's clinic in Greifswald showed tuberculosis. The mucosa is usually studded with tubercles even under the microscope, but the superficial layers desquamated and necrotic and with far more bacilli than in the nodular form. Sometimes there is a bacilary catarrh; that is, the lumen is filled with a mucous fluid and there is no other pathologic appearance except the presence of numerous bacilli in the fluid. This is probably an early form.

In the uterus one finds less often the nodular form but more often the necrotic endometritis similar to the necrotic salpingitis already described. Serial sections often demonstrate that what appeared as isolated nodules are really lymph channels filled up with tuberculous material. These may run into the myometrium. The disease is usually confined to the body of the uterus and the cervix is usually free, except in far advanced cases. As in the tubes, the tuberculosis commonly takes its first seat in the superficial mucous layer surrounling the lumen.

There are several possible sources of infection of the genital system with tuberculosis: first, from the outside through the vulva and vagina; second, from neighboring organs; third, from the infected placenta; fourth, from the blood stream.

That infection is possible through the external genitals must be admitted, although the researches of almost all authorities show this method to be extremely rare. In Schlimpert's series there was no instance of primary isolated tuberculosis of the genitals. In Simmonds' series there were only four such cases, and in none of these was the route of infection proved to be by way of the external world through the vulva. In one of the four the patient was 71 years old at the time of death. The uterus was filled with tuberculous pus but there was an old cicatricial closure of the cervix which prevented any communication from the vagina. Another subject was a widow aged 69 who died of pneumonia and whose tubes were intact but had fresh tuberculous deposits in the enodmetrium. The third case was a woman of 31 years who was taken with acute parametritis a few weeks after marriage and who died of peritonitis resulting from perforation into the rectum and peritoneum. The uterus and vagina were absolutely free but there was double tubercular pyosalpinx. The case appeared to be one of gonorrheal salpingitis later infected with tuberculosis. The fourth case was a young woman of 31 whose husband died of phthisis six months before her death. He, however, had no trace of genital tuberculosis. On account of metrorrhagia curettage was done and in the matter removed giant-celled tubercles were found. The extirpation of the uterus and tubes was followed by a fatal peritonitis. The autopsy showed the lungs free, a few nodules in the pelvic peritoneum, the tubes and uterus were already found to be tuberculous, the vagina, cervix and vulva were free. In this last case there is a strong probability that the tuberculous infection entered by the external genitals during coitus, although the husband had no genital tuberculosis and the woman had none in the vulva or vagina. There is always a possibility of the carrying of bacilli from infected semen or from an unclean penis upward into the female genital canal by means of the motile spermatozoa. In this connection Friedmann's experiment may be noted. He found that, eighteen days after injecting tubercle bacilli into the vaginas of rabbits just after coitus, bacilli were always found in the embryos. Marital infection with tuberculosis is probably rarely by way of the genitals but almost if not entirely by way of the more usual avenues, especially the mouth.

From neighboring anatomical structures infection may spread to the genitals. In a few instances the infection may extend from the lower bowel or the bladder. More often it comes from the peritoneum. In none of Schlimpert's cases did the process appear to have come to the peritoneum from the genital organs, but in seven cases the peritoneal tuberculosis was apparently the origin of that in the genitals. Simmonds' conclusions were directly opposite to those of Schlimpert. He found tuberculosis of the peritoneum in forty-five of his eighty cases of genital tuberculosis, without counting the many secondary nodules in the cul-de-sac of Douglas in cases of tubal tuberculosis. In many cases the age of the process in the tubes was evidently greater than that in the peritoneum. In many also the chief tubercular deposits in the peritoneum were in the direct neighborhood of the abdominal ends of the tubes. Simmonds concludes that, in the vast majority of instances of tuberculosis of both genitals and peritoneum, the process in the genitals is the cause and not the result of that of the peritoneum. On the other hand, the entrance of bacilli through the open ostium from the peritoneum does occur. This appeared to be so in four of his cases. Baumgarten's experimental tuberculosis of the peritoneum in animals was never followed by the disease in the tubes. His observations bear out the theory that the infection rarely travels from peritoneum to tubes but rather vice versa.

In none of the cases of Simmonds or Schlimpert was the infection proved to be from the placental site, but in two it was possible. Of course even here the ultimate cause may have been hematogenous. Of Schlimpert's series hematogenous origin was possible in sixty-seven of the seventy-three, and probable in twenty-eight. In only five of Simmond's eighty cases of genital tuberculosis were tuberculous areas in other portions of the body wanting. The first manifestation in the genital organs is in the great majority of cases in the tubes and here are found the oldest lesions, as shown by their cheesy character, the great cicatrization around the deposits and the rather frequent calcareous formations. From the tubes the infection often extends in the direction of the flow of mucus into the uterus. Rarely does it pass the internal os.

Studies of anatomical material have usually shown that tuberculosis of the female genitalia is a disorder of a minor grade as compared with tuberculosis of other portions of the body. In none of the cases of either Schlimpert or Simmonds was the genital disease the cause of death. So much more important was the disease elsewhere that in only three of the cases did the subjects come to the dead-house from the gynecologic wards.

We will perhaps be pardoned some conclusions in respect to treatment of genital tuberculosis in the female. In most text-books and in many articles in journals even of a recent date, more or less radical operation is recommended. Thus August Martin, at the 1908 meeting of the American Medical Association in Chicago, advised that tubercular ulcerations of the vulva and vagina be removed by the curet and by strong astringents, and that internal organs of the genitalia be removed when hopelessly invaded by the tubercular process. On the other hand, Martin preferred to remove only those organs and parts of organs which were so thoroughly diseased that healing seemed imposible. Many others recommend removal of affected tubes, ovaries and even the whole of the uterus, provided the general condition of the body will permit of operation. Winter even advises the extirpation of apparently normal tubes when the abdomen is opened for tubercular peritonitis. The existence of tubercular

lesions elsewhere in the body, even in the lung, is not considered by many as sufficient contrai-indication for operation.

It appears to me that the modern disinclination to operate in tubercular disease which is manifest among the most progressive surgeons has not extended to the gynecologic surgeon as much as it should. Notable exceptions are Schauta, Bumm and Doederlein. In the discussion on urogenital tuberculosis at the last German gynecological congress there were, however, many conservative speakers. The fact that the primary mortality in operations on the tuberculous genitals is high, ranging from 10 to 13 per cent., that the disease in the genitals is not in itself deadly, and that the primary focus is usually inaccessible, were points brought out by the conservatives. We hear very little now about operating on the tuberculous lung. The orthopedist rarely performs radical operations on tuberculous bones and joints. Tuberculous kidneys are allowed to remain undisturbed more often than formerly. A tuberculous bladder is not often scraped. There are still many general surgeons, expert in operative gymnastics, who operate radically on tubercular lymphatic glands, but even among general surgeons protests are being heard against this procedure. The tendency in treatment of tuberculosis anywhere in the body is to employ rest, local and general, and the modern hygienic anti-tuberculous methods. In general tuberculosis may be said to be a disease which tends to recovery when treated early by measures which have for their object the keeping of the body in its highest state of nutrition.

Rest is an important item in the modern treatment. Only the very minimum of exercise is permitted. Pleasant surroundings are essential and congenial companionship. Nutrition is brought to its highest pitch by the use of the easiest digested and the most highly concentrated foods. Above all is fresh air held to be indispensable. Smoke, dust and noxious vapors are avoided by treating tubercular patients as far as possible in the country. In short, everything is done to preserve what strength and vitality the patient already possesses and to enable his body to accumulate more and more. The shock of operation, the irritating effects of ether, the inhalation of buccal and nasal fluids with the deep breaths of the anesthetic coma, the nausea and other digestive disturbance for days afterward, the loss of blood, the necessary diminuition in the ingestion of food, the depressing effects of hospital life, and the lack of fresh, pure air are all great handicaps inseparable from any operation. All these things are bad for a patient suffering from tuberculosis and all are antagonistic to the general trend of modern treatment of tuberculosis.

Experience seems to show that tubercular peritonitis may often be cured by simple drainage of the abdomen. A large number of cases of tubercular peritonitis are probably caused by tuberculosis of the tubes. Again, many times the diagnosis of tuberculosis of both peritoneum and of tubes is made at the time of the laparotomy. Therefore, with the abdomen already opened, it is proper to remove evidently tubercular tubes, provided that they are not firmly adherent and provided that such removal is easy and speedy. This admission does not commit me to advising hysterectomy when the uterus is found or believed to be tuberculous. The uterus is not the continual feeder to the peritonitis which the tube is. Furthermore even in expert hands, hysterectomy is a far more shocking and dangerous operation than removal of slightly diseased tubes. It also opens up far more vascular and lymphatic channels and therefore tends much more to extension of the local tubercu-

losis to adjacent and remote parts of the body.

Again, what is the use of subjecting the patient to the dangers of operation in order to remove organs which are usually only a secondary feature in the tuberculosis from which the patient is suffering? In the vast majority of instances there are other foci elsewhere in the body, almost always in the lung. The tuberculosis of the genital organs is very seldom or never the cause of death. The removal of such organs can very rarely remove all the tuberculosis. It even may liberate into the vascular system bacilli which were compartively harmless in their former location. Local operation in most cases of tuberculosis of the female genitalia with the hope of curing the patient may be compared to putting on a fur cap when one is freezing to death because of insufficient clothing. In the great majority of cases the chances of the patient will be better with hygienic antitubercular treatment.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D.
M. E., Lima Ohio

THE QUESTION BOX.

I have a faradic battery and would like to know how to use it in the following cases:

1. Boy, 16, had spinal meningitis when six months old, has to be tied in chair or he will jump out, can hardly talk, weighs about 130, but perfectly helpless.

2. Lady, 50 years, rheumatism, mostly in lower extremities, has to get up about midnight and walk the floor the rest of the night.

I hope you will have time to answer this, etc."

The above is only a sample of the questions propounded by some doctors, who don't think what they are doing.

If the father or husband of the above cases should come to him and make the same statement, do you suppose the doctor or anyone else could make an intelligent diagnosis, and map out a plan of treatment. No siree. He would at once fire a string of questions at the man a mile long, and wind up by saying, "Well, you must bring the patient here for a thorongh examination, before I can possibly give an opinion, as to what is wrong or, as to whether or not I can do them any good.

But on the other hand they will write me as above and expect me to be omniscient, and to be able to tell just exactly what is the matter, and to give minute instructions how to treat them, and cure the case, all based on a few vague and indefinite symptoms, from which no one could possibly make a diagnosis.

Another doctor sent in a question for quick advice and plan of treatment of an important case, saying that the results meant a great deal to him, yet he sent only twenty-two words to me about the case, and wanted "a reply in full, by return mail."

The symptoms detailed were so vagne and indefinite, and were such as might be referable to one of any of a dozen different diseased conditions, that I could form no definite opinion on which to risk a diagnosis, and when I wrote him the facts, and asking him to make his diagnosis he was very angry and insulting and made the statement that "anyone could tell what was the matter from that description." It seemed that he could not, or at any rate he did not, and I suppose is still damning me because I would not do his thinking for him.

ELECTRO-THERAPEUTIC MELANGE.

By Henry Ermentraut, M. D., Watertown, N. Y.

Abdominal faradization. In many obscure abdominal neuroses, galvano-faradization is unquestionably useful. Every one must be acquainted with vague abdominal sensations and pains which can not be traced to any definite assignable cause. They are classed under the head of neuralgias. They are very distressing, and are not curable by the ordinary remedies. The pains are frequently periodic and have a varied intensity. Sometimes they are referred to th stomach and known as gastralgia or dyspepsia. They are often cured by galvano-faradization, even when they are of long standing. The technique of treatment is to place the large dispersive electrode, sponge covered or otherwise, attached to the positive pole, over the region of the cardiac plexus, with another large electrode, attached to the negative pole, placed on the spine in the mid-dorsal region, and the mode used for ten to fifteen minutes, being mildly but distinctly felt. I have had some very satisfactory results with this treatment in vomiting of functional or nervous origin. origin.

Locomotor ataxia. If we cannot cure this troublesome disease, we can relieve many of its vicious and distressing symptoms, by means of galvano-faradization, franklinization, and suspension.

Brain and spinal cord lesions. In functional disease of the brain and spinal cord, the combined faradic and galvanic modes are valuble aids to this treatment. I prefer the combination in all cases.

Inccontinence of urine. This trouble in children may many times be cured by the local application of a mild combined mode to the spine, for from three to five minutes every night at bed time.

Writers' cramp. In this trouble I find a great deal of harm may be done by injudicious faradization.

Neurasthenia and hysteria. Electrification in these affections is of uncertain value, when applied alone, but as a part of a system of treatment it certainly has advantages and is a valuable aid that cannot be ignored.

Pain. Galvanic electrification should exercise an important influence on the circulation and nutrition of the brain. I have obtained good results from this modality in the treatment of hysteria and hysterical headache. The technique is to apply a flexible pad electrode to the nape of the neck, high up, and the other electrode, a large one, moved about from part to part, taking care not to raise it from close contact with the skin, unless the mode strength has been previously tested. This treatment has a good effect on the troubles higher up in the brain.

High frequency vacuum electrization. The advantage of this mode over the faradic, is that there is much greater electro-motive force and it is necessary for the patients to remove but little of the clothing. This is a decided advantage where you have many patients to treat, and especially some timid ones who would not disrobe for a treatment by the general faradization or galvanization. These will not hesitate to take the high frequency vacuum electrization, which will penetrate medium weight clothing without discomfort. This mode has very high potential, small capacity, and enormous frequency of oscillation. Nerves and muscles are acted upon in the same manner as by an application of faradization, but in a much more effectual and less painful manner. The muscles will react to this mode, when not the slightest reaction can be obtained with the strongest faradization. This mode may be used by means of special vacuum electrodes, viz.: surface vaginal, rectal, ear, throat, and nasal

tubes, but when the application is made to such sensitive parts, the negative pole should always be grounded, by means of a conducting cord the end of which rests on the floor three feet from the patient. In givng these treatments with the high frequency electrodes, the hands should be kept as far as possible from the contacts of the vacuum tubes.

These are but few ow the many practical points in electrification.

SYPHILITIC SYNOVITIS TREATED BY ICHTHYOL PHORESIS

By A. W. Lair, M. D., Canton, Illinois.

Recently I have been trying some interesting experiments with ichthyol phoresis from which I am getting very satisfactory results, both to myself and to my patients. The following is the detail and technique of a case of syphilitic synovitis:

Patient: R. A., male, age 30, weight 145 pounds, height five feet nine inches, temperament sanguine, six years ago became syphilitic and was badly treated at the time. Two years ago he became a paralytic, recovered under tratment; immediately a carbunculous looking sore developed on the forehead, so the patient reports. Sore resisted treatment by local doctors, and finally he was taken to the hospital and operated on for a necrosis of the bone, nearly all the outer plate of the frontalis being removed. He recovered from the operation, but, subsequently, was taken with paralysis of the sensory nerves of the entire side of the body. He was taken to the hospital at Hot Springs, Arkansas, where he was treated for syphilis. He recovered from the paralysis, and remained well for several months, when he was taken for what he has been treating for rheumatism of the left knee. His rheumatism resisted all treatment for two years or more; he then came to me, the knee was very painful and badly swollen. Upon examination I found a very sesnsitive area, located at the inner side of the knee, on the anterior portion of the internal tuberosity of the head of the tibia, just in front of the attachment of the semi-membranosis muscle, and extending upward under the patella.

It was my intention to withdraw the mercury (yellow iodide) treatment which he was on, and put him on the chaulmoogra oil treatment, and treat the knee by ichthyol phoresis.

However, I withheld the oil treatment and used only the phoric, because being an experiment, I wanted to see what ichthyol phoresis would do alone; I do not know whether ichthyol was ever used this way or not, but believed that if I could get it into the diseased tissues it would do the work. Sulphur is the therapeutic principle of ichthyol, and is the most negative of all the homogeneous elements except oxygen, so I applied it on the negative electrode sponge and placed it over the sensitive area on the tibia. I then improvised a positive or dispersion electrode, about four inches in diameter, made of cotton and cloth wrapped around screen wire, and attached it to the positive reophore. I then wet it with a normal salt solution, and placed it on the outer side of the knee and connected the whole with three cells of a dry battery, coupled for voltage. The mode was passed for nearly an hour, until the sponge became dry. There was not the slightest bad results, and no sensation except of warmth and prickling and occasionally a knee jerk. The first treatment gave relief. Gave treatments every day and the third treatmnt subdued all the pain and swelling, and the patient went to work. Treatment was then suspended on account of absence, and in about two weeks the pain and swelling returned. The same treatment again

gave relief. I then gave the batteries and the outfit to the patient and let him take them home with him, where he is applying it himself daily. He reports that the sensitive area on the tibial tuberosity is gradually improving, and the swelling does not recur and the patient is elated over the prospect of a complete cure.

I believe many other forms of deeply located inflammations could be reached by this treatment when all others fail.

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ELECTRIFICATION IN MEDICINE AND SURGERY.

By C. S. Bryce, A. M., M. D., M. E., Ashland, Va.

To the man who buys a faradic machine and whose therapeutic applications of the same consist in the indiscriminate completion of the circuit through two sponge electrodes here and there on the body of the patient, elctrification has reached its climax for potency, and the further consideration of the subject is actually too stale to interest him.

One great reason why so little real good is being accomplished with electrification at the hands of the profession today is because about nine out of ten physicians have gone no further than the bungler we have described in our first paragraph.

The makers of cheap batteries are trying to sell goods as fast as possible, and the average physician is trying to buy as cheaply as possible and appear to be up with the other progressive men who do really study and equip themselves, and thus it is that cheap instruments get into the hands of cheap and ignorant men, who always succeed in doing harm to the patient and to the cause of this branch of our science.

Unless a man thoroughly understands electrification it is dangerous practice for him to engage in, and he should be honest enough not to tamper with the health of a patient nor rob him of the fees made on the line of charlatanry.

We wish to give our readers a very brief synopsis of some of the things that can be most certainly accomplished under the use of the current in skillful hands, and trust that it may start them to studying and practicing in the right manner.

In the hands of the medical practician who makes no pretense of practicing surgery, the galvanic and faradic modes can both be used to the greatest advantage as purely therapeutic agents. In this manner we are able to stimulate or decrease the blood supply to parts, and consequently treat a very large number of ailmnts dependent upon such conditions. We can improve nutrition and blood supply in organs, and stimulate muscular activity and metabolism. We can relieve pain, restore lost functions, and treat hysteria functional paralysis, neuralgia, sciatica, rheumatism, chorea, and a number of nervous and muscular troubles with galvanic and induced modes. The absorption and dispersion of benign and malignant tumors in dangerous and inaccessible localities may be accomplished with the continuous mode alone or aided by phoric applications; while the ready placing of remedies into the tissues at any point wanted, by electrical dispersion, is one of the very strongest points in favor of electrical medication at the hands of the general practician.

The electrical surgeon in addition to the above can successfully treat and cure strictures of all kinds and at all of the usual seats of same in the human body, and can approach malignant and other neoplasms and growths with better prospects of cure than in any other manner known to the profession at this time. With electrolysis, phoresis, faradic stimulation, galvanocautery, and X-ray, medicine and surg-

ery have received more benefit than from all the drug discoveries made in the past hundred years, and the practician of today who is not informed on these topics well enough at least to know when they should be used, is not properly educated for his professional work.

TREATMENT FOR SEXUAL NEURASTHENIA AND VESICULITITIS.

By C. C. Seabrook, M. D., Burlingame, Kansas.

Begin with either the vibrator or high frequency treatment. If with the vibrator, use the long rubber rectal attachment. Start vibrator and slowly insert vibratode slowly allowing it to go up into bowel more by the pressure of its weight than by any additional force. Do not insert much above the prostate gland, so that the vibratode will strike against the gland. Treatment not to exceed five or seven minutes.

With the high frequency glass electrode, insert into the bowel covering carefully so that the glass does not give off sparks to the nates, pricking the patient. Give a spark gap of from one-half to four inches. Time not to exceed ten minutes, and five will be better. Instead of the glass electrode, the copper electrode for piles can be used in the same way.

The length of treatment should be watched closely. Some patients will not be able to bear more than five minutes, with either without a sense of depression the folowing day. Stop length of treatment short of causing this feeling, when the most tonic and stimulating local effect will be had. Reporter has never had to give over six or eight treatments. He usually alternates, give the same treatment every fourth day, so that one is given every two days. Lately he discharged case of long standing who was wholly relieved after four treatments, altogether, for local effect. This patient had nocturnal emission almost immediately on inserting organ. Now this is all changed.

ACUTE ANTERIOR POLIOMYELITIS, an ENTITY

By A. LIVINSON, M. D.
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Since the days of Pasteur who opened up to the world the realm of bacteria, one disease after another has been added to the infectious group. Through the efforts of such indefatigable workers as Koch and Metchnikoe, the causative agents of many diseases have become known to us, and the infections character of others has become clearly defined. In this latter group belongs one of the most recent additions to the list of infections diseases known as acute anterior poliomyelitis. Its inciting cause is still a matetr of conjecture but the course of the disease has proven without a doubt that it is of an infectious nature.

When the disease was first described by Jacob von Heine in 1840, he little dreamed of its being contagious. He called the disease "Spinale Kinderlahmung," because he observed that its most striking feature was paralysis. Some years later, as a result of scientific resarch, the disease was added to the contagious gronp on the strength of the following discoveries:

1. Epidemic prevalence. Recorded in Sweden, New York state, Illinois and other regions.

2. Inoculation of spinal fluid into monkeys produced typical disease.

3. Secretions of mucous membrane contagious.

Now nobody doubts the contagiousness of anterior poliomyelitis. In one way, however, is the student of polyomyelitis handicapped more than in his study of other infectious diseases, and that is, because of the complexity with which the various authorities treat the disease. This is particularly strange in view of the fact that it is the tendency in modern science to simplify diseases, to separate the members of the same group. So has typhoid been differentiated from typhus, and typhus from Brill's disease; so has hysteria been differentiated from neurasthenia, and so on. The opposite however seems to have been the case with poliomyelitis. While years ago we knew poliomyeltis to be a disease that generally attacked the anterior horns of the cord and produced symptoms peculiar to this process, now, we find that Wickman has included practically all meningeal and spinal diseases under acute anterior poliomyelitis. As a result we are in state of confusion as to what we shall term anterior poliomyelitis and what ascending paralysis or pontine paralysis.

Here is Wickmans classification of acute anterior poliomyelitis that speaks for itself.

1. The spinal-poliomyelitis type. Characterized by fever and diarrhea at onset, folowed by a flaccid motor paralysis.
2. Ascending or descending paralysis.
3. Bulbar or pontine type.
4. Encephalitic type.
5. Atoxic type.
6. Polyneuritic type.
7. Meningeal type.
8. Abortive type.

It looks as if Wickman would call all paralysis anterior poliomyelitis. It is certainly confusing in the diagnosis and harder in the treatment of it. Therefore it hardly seems to be out of place to suggest the limitation of the term anterior poliomyelitis to the old typical type of spinal paralysis or infantile palsy. This will simplify the diagnosis and help a good deal in the treatment.

I shall presently describe the course of a typical poliomyelitis case, a good many of which have come under my observation both in private and dispensary practice. The onset is quite abrupt with a temperature of 100°-102° and accompanied by headache and diarrhea, rarely constipation. To the mother the symptoms seem characteristics of slight indigestion, of an "upset stomach" and she dismisses the matter as of too little consequence to call for a physician. Two or three days later, when the mother has practically forgotten about the child's illness she is greatly alarmed to find that the child gets up helpless, unable to move its hands and feet. She then anxiously summons the physician. This is the stage of the disease in which the physician first sees the patient.

On examination, the right lower and upper extremities or right lower only are found to be paralyzed. The paralysis is motor flaccid in type, the reflexes are lost and no pain or tenderness associated with it.

Several days pass and the child improves with or without treatment. It begins to lok as if the leg will regain its strength but in two or three weeks it starts to thin out, power of locomotion becomes impaired and the child drags its affected foot as it walks. In the cases that have come under my observation, it has always been the lower extremity that has suffered deformity and atrophy, the upper being free from such dire results. The deformity usually takes on the forms of club foot, and atrophy of the perineal group of muscles.

Such has been the course of acute anterior poliomyelitis in the cases observed—characteristics clean-cut with diagnosis following as a result of the initial symptoms of fever and diarrhea followed by motor flaccid paralysis. The pathological process in these cases can be expalined by the symptoms to be an involvement of the anterior horn of the cord which goes through the stages of congestion, infiltration and atrophy. At the beginning of the disease the vessels of the cord are congeetsd, and little by little, there is round cell infiltration of the pia mater, especially around the cervical and lumbar regions. When the infiltration is extensive there is pressure on the grey matter of the anterior horns, which clinically produces paralysis on the third or fourth day of the disease. In a few days absorption of the infiltrated leucocytes takes place. This accounts for the improvement in the extremities. Not all the cells of the grey matter improve, however. Some have been extensively injured and never recover. These are the cells that have to do with the atrophied muscles and deformities. "Why do some cells regain their strength while others do not?" is a question to be answered by clinical observation and pathological findings. Probably, in time, we shall discover that the patient can reocver completely by the employment of preventive measures from the very outset,—the use of such remdies as urotropin in large doses as Flexner advocates, or perhaps the appliance of some mechanical devices.

The question now arises: Since we see such typical cases of the disease, why complicate it by including so many differnt types as Wickman does? Why not consider actue anterior poliomyelitis an entity?

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
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CONVULSIONS.

This common designation for a condition quite frequently seen in infants and children is often called by the still more common name of cramps or spasms. This condition can be considered as a symptom only, but must be treated as such many times before a correct diagnosis of the diseased condition causing the symptom can be made. There are many etiological factors that may be present, any one of which, when discovered, clearly accounts for the manifestation of the spasmodic contractions of the different involuntary and voluntary muscles that are involved.

In small infants and the younger children indiscretions in the dietary are the most common cause. In the case of a breast-fed child, carelessness of the mother respecting her food and drink and exercise may be the sole cause of the illness of the child. In the larger number of cases of symptomatic convulsions, acute indigestion is the direct cause of the attack. The doctor is always summoned in great haste and the first one to be found is secured, because no amount of familiarity with the condition will ever permit any one, even the M. D., to view a case with any degree of indifference or apathy. The death-like appearance of the patient, together with the unconsciousness and suspended breathing present a clinical picture that appalls and greaty disturbs all beholders. Instant effort to relieve these urgent symptoms are very properly demanded and this demand should be complied with. The unequal distribution and poor oxygenation of the blood indicate something of what should be immediately attempted, viz.: a restored circulation and respiration.

The shock and otherwise helpful effects of a flushing of the colon with a very hot normal salt solution tends to restore normal breathing and is very helpful and the necessary preparations will give the ones standing about something to do and help to place the physician in command and relieve the existing strained and tense situation. Besides this an effort to stimuate the surface circulation of the blood should be made by using a hot bath or pack. If plenty of hot water is ready a bath may be given, though we really prefer a cloth wrung out of hot water, wide enough and long enough to wrap about the trunk of the body from closely unler the arms to the thighs or knees. Only a pint of hot water quickly heated, if necessary, is sufficient to moisten such a cloth which may be a towel or a pillow case. The clothing, except the napkin, need not be removed, but can be easily raised toward the head for the time being. Much time is saved by this plan. A cold cloth may be applied to the head. Meanwhile the convulsive seizure may have ceased and the child can be given an antispasmodic remedy to try to prevent subsequent seizures, if it has the ability to swallow.

By this time some indication of what may have occurred to cause the attack may have been secured. If it is known or if there is reason to suppose that the patient has eaten something that has proven to be quite impossibe to digest or of a distinctively harmful type, an emetic should be employed at once. If the patient can be induced to swallow a large draught of mustard and water, it will serve the purpose as well as anything. Otherwise ipecac or lobelia can be used or a hypodermic use of apomorphia. All emetics help by acting as an anti-spasmodic too and greatly reduce the probability of further seizures and can not do harm if used in a reasonable way. The use of hypodermics, inhalations of or rectal enemas of anti-spasmodics can be instituted if the seizure is persistent and continuous after the doctor arrives.

Often the first convulsion is over with before the doctor can get where the patient is, but they may recur at any moment and for a long time, especially when they are caused by the pathological effects of some disease profoundly affecting the nervous system. In all such cases and as a medicine to be kept for the purpose of modifying the seizures and together with the care of a case previously mentioned, save an anxious mother from being almost crazed because she knows of nothing that she can do to help her child while she is waiting for a doctor to come, I prefer passiflora in from 2 to 30 or more drops of a reliable preparation of this medicine as the urgency of the case may require, at a dose, repeated as may be necessary every ¼ to 2 hours. Some of the older antispasmodic medicines, such as potassa bromide, gelsemium and choral hydrate can be used by the mouth or in rectal enemata as may be required. Careful attention must be given to determining whether the seizure is only one of the symptoms of some serious diseased condition that may have assailed the patient and be the cause of this particular symptom. However the convulsive attacks shouid be controlled in any event if possible and we have found the remedy mentioned to do this in desperate cases of tetanus and cerebro spinal meningitis, even, which were seen and treated in consultation with other competent physicians who will add their testimony to the exact truth of this statement.

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Willie, why don't you use the paper towel? It's more sanitary than the other kind.

Cause you can't get the dirt off when you use it unless you git your hands wet all over first.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
J. P. THORNE, M. D.,
Janesville, Wis.

CALCIUM LACTATE IN HEMORRHAGE.

Much has been written in late years regarding the great value of calcium lactate in hemorrhage and its merits highly extolled. The American Practitioner abstracts an article from a German Medical Journal which would seem to explode the calcium lactate theory.

Van Lier tabulates the coagulating time in forty persons before and after administration of calcium lactate and also in healthy controls. His conclusions are negative as to the value of calcium lactate in prevention or treatment of hemorrhage.

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NOTES ON CATARACT EXTRACTION.

The eyebrows should always be shaved off. Too much care cannot be spent on preparing the patient. The field of operation should be as sterile as possible.

The instruments should not only be sterile but should be free from any small particles of rust. An excellent preparation for cleaning instruments is equal parts of alcohol and ether.

Two sets of instruments should be ready for use. I heard of a case recently where the operator started to perform a cataract extraction and had only one knife ready. After entering the anterior chamber with the knife he found it so defective that he could not complete the incision, so that the operation was abandoned for the time.

A few years ago there was much controversy over the relative merits of simple extraction and extraction with iridectomy. Now simple extraction has been abandoned and it is generally conceded that the combined method is better.

The opinion of most ophthalmologists at present is that extraction in capsule is suitable for immature and hypermature cataracts but for mature cataracts the regular Graefe operation is preferable.

A large opening in the anterior capsule is desirable as it allows the free escape of the lens and there is less likelihood of a secondary needle operation.

When the cataract does not deliver easily great care and gentleness should be used in the necessary manipulations. There is a wonderful difference in the skill of operators in this.

The operator who is extracting a cataract should take plenty of time and never be in a hurry. Many an eye has been lost because the operator did not take time enough to be careful.

A drop of cargentos solution in the eye once daily for a few days before operation is a good preventative of infection.

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CONICAL CORNEA.

Manes, of Buenos Ayres, according to abstract in the Jour. A. M. A., turns back a flap of conjunctiva and then burns off the tip of the cone with the actual cautery but without perforating it. The flap of conjunctiva is then sutured to cover the whole of the cauterized surface and the cornea is then punctured at the upper corneo-scleral junction. He opens the corneal wound every day with a spatula to enable the corneal wound to heal without any pressure.

MISCELLANEOUS

ARE DRUGS CURATIVE?

By George L. Servoss, M. D., Gardnersville, Nevada.

The above question comes up with considerable frequency in quite a large proportion of the various medical journals, both in America and abroad. Those who would contend to the contrary, base their argument upon the fact that, aside from one or two diseases, we have no known specifiics. All of these writers admit that quinine is usually a specific in malaria, mercury in syphilis, the salicylates in rheumatism. Admitting this, a great number refuse to admit the efficacy of many of the drugs listed. On the other hand we find as many, if not more, who insist that, while the drugs do not possibly cure the disease, they offer considerable assistance in bringing about satisfactory terminations.

Those who believe in the efficacy of drugs, do not, as a rule, either believe or insist that they really cure the disease through the use of such agents. However, they do insist that they relieve conditions which might terminate other than happily, if allowed to pursue their natural way. These men treat the patient and practically ignore the disease, considering the latter as a combination of symptoms due to certain pathologic changes, either functional or organic. They must, and do, know just what organ or organs are at fault, and if possible determine just what the condition is and how far they are from normal. They know that certain errors of function produce certain signs, symptoms or what not, and that these latter give the indications for the use of the proper remedies. Much fault has been found with the assertion that symptoms are treated, but as great a therapeutist as Beverly Robinson has recently said that we treat the patient and his symptoms. By saying that we treat symptoms we do not mean this exactly. Pain is a symptom of some abnormality and while we may not administer an antispasmodic, as hyoscyamine, morphine, codeine, cicutine, gelseminine, or other narcotic, but rather look to the cause of the symptom and through its removal, we really consider the symptom. Fever is another symptom which may be due to a myriad of causes. We endeavor to remove the cause, but in the meantime administer aconitine, veratrine or other febrifuge, in that the temperature may be brought to normal if possible. Here again do we give our attention to the symptom and treat it, thereby assisting in bringing about a cure, possibly in an indirect manner, but a cure nevertheless.

In practically every departure from the normal function we see many symptoms which are practically alike, and which submit to practically like treatment, regardless of the name of the combination of pathologic conditions and symptoms present. In the vast majority of cases there is fever. In many we find pain. In fact there are many signs common to practically all diseases, regardless of the specific condition existent.

Many of the bowel irritations show different causes, but in the vast majority of instances it is infection of one sort or another and the sulphocarbolates are invariably indicated, regardless of the nature of the infection. We administer these agents in simple diarrhoeas due to organisms which do not give much, if any, general manifestation, the trouble being practically local. Again in typhoid this remedy is again indicated, despite the fact that we have systemic involvement. The sulphocarbolates do not have any action other than locally, but by either kiling or inhibiting the effect of the resident microbes, they do act as curative agents in the treatment of typhoid

fever, in that they assist in the removal of the cause. If given early and pushed to full effect they frequently assist greatly in the reduction of the fever incident to the disease.

Aconitine will not cure pneumonia, but it will assist in the satisfactory termination of the disease. This drug acts to equalize the circulation and by so doing relieves the inflamed area of much of the congestion incident to penumonitis, thereby lowering the fierceness of the inflammatory process and hastening recovery. Again in this same disease we find a lack of elimintion and we administer veratrine which acts as an internal bleeder, thus favoring the passing off of toxins which would otherwise overwhelm the patient. Veratrine does not cure the pneumonia but by removing the toxins, favors more speedy return of the normal. It cannot be said to be other than curative, despite the fact that it has no exact action upon the specific cause of the disease.

Citric acid and the citrates are now recommended in the treatment of carbuncles and furuncles. These agents do not cure the diseases directly; in fact they have no selective action upon the inflamatory product, but they do liquefy the blood and soften the wall about the areas, thus allowing of the egress of the leucocytes, which in turn devour the invading bacteria. Indirectly, these agents are curative.

The great trouble with those who pronounce drugs other than curative lies in the fact that they are continually looking for specific diseases and do not take into consideration the fact that any agent which will bring about a satisfactory termination is really curative, regardless of the fact that it may have no direct effect upon the specific cause of the disease.

The three specifics mentioned above are not invariably effective in bringing about a cure, as there are some cases which seemingly refuse to submit to any sort of treatment. In some cases of rheumatism one is obliged to drop the salicylates and take up the alkalis prior to any notable improvement is shown. Quinine usually brings about a satisfactory termination in malaria, but we have all seen cases in which no improvement took place until quinine had been dropped and arsenic substituted. There are some forms of syphilis in which the iodides are preferable to mercury.

We cannot absolutely say that there is a specific for every indication, but we do know, from observation, that in the vast majority of instances, certain drugs, given under certain conditions, do bring about satisfactory results. A full dose of atropine will frequently overcome an internal hemorrhage, through determining the blood to the surface. This drug, will also overcome internal congestion through like action. While it may not cure, per se, the specific condition which has brought about the congestion, it will indirectly do so, as it will relieve the effect.

While nuclein may not be directly curative of a single specific disease, through enforcing leucocytosis it is undoubtedly indirectly so. Lecithin is another agent which no doubt is not to be credited with any direct cures, but by building up the nervous system it, without a single doubt, assists in bringing about happy terminations in many disorders.

While we of the optimistic class of therapeutists do not even venture to assert that a single drug is a specific cure of any particular disease, we do contend that, if properly applied, in the face of certain known indications, drugs act in a curative manner, either directly or indirectly. This is brought about by either the removal of the cause or by correcting some fault of function. Drugs properly employed are without a single doubt, curative.

HEALTH BULLETIN.

The following verbatim copy of the Bulletin of the Department of Health, edited by Dr. G. B. Young, Commissioner of Health for the City of Chicago, Ill., is published every Saturday and affords much information to those interested in the subjects reported weekly in the publication referred to and which the Commissioner will have mailed to all who apply for them, free.

"Coincident with the arrival of cool weather there comes a pronounced rise in the pneumonia death-rate—a development as unfailing as day and night.

Here's the reason: Stagnant air is extremely destructive to human health and life.

With the onset of cold weather, into the houses go the people; down go the windows, and up goes the death-rate from the impure air diseases. The air of a closed house is dirty, stagnant, disease-breeding air; air in which no human bieng can live with safety.

Pneumonia is the Winter Plague because of indoor conditions, not because of outdoor conditions—it's the bad air of closed homes and not the cold air of outdoors that causes pneumonia to thrive in winter-time.

The lesson is as plain as can be: If we must spend our time indoors we must keep the indoor air pure and healthful. The simple way to do this is to keep the windows open.

All the coddling in the world won't offset the dangers of impure air. The man who keeps his windows closed and who affects such heavy armor as chest protectors, mufflers, galoshes, etc., when he ventures into the open is in infinitely greater danger of contracting pneumonia than is th woman who affects lace hosiery, half-shoes and a peek-a-boo waist, as street attire, but who spends her walking and sleeping hours in good fresh air. Protection against pneumonia is not so much a matter of dress as it is a matter of air.

Now's the time to be fortifying yourself against the winter plague—keep your windows open.

Especially is it important that you keep the windows open while you sleep—make health while the moon shines.

CHURCHES TO DENOUNCE CURE FRAUDS.

National crusade on Tuberculosis Day against use of fake remedies for consumption.

From thousands of pulpits in all parts of the United States, fake cures for consumption will be exposed and denounced on Tuberculosis Day, October 27th. This is part of the program for the movement announced today by the National Association for the Study and Prevention of Tuberculosis.

Literature giving information on fraudulent and alleged "cures" for consumption will be sent to clergymen all over the country, and an organized crusade against the traffic in these drugs and devices will be instituted. The literature will be sent to ministers either directly from the National Association office in New York, or through the many state and local anti-tuberculosis associations scattered throughout the country. It is estimated that over 100,000 clergymen will be reached in this way.

From actual records on file in the office of The National Association, it is estimated that the volume of business done annually by the various concerns who sell fake remedies for tuberculosis amounts to well over $15,000,000. The number of these remedies now being used as so-called "cures" is over 500.

Three classes of "cures" are distinguished by the National Association. The first class includes hundreds of devices and drugs which can be bought for any sum ranging from ten cents to five dollars at a drug store. The second class of "cures" includes the "institutes," "professors," or companies of "doctors," who, for a consideration,

guarantee to cure consumption by some secret method of which they are the sole proprietors. There are nearly 150 of these institute frauds in the United States, cheating the people out of millions of dollars annually.

In the third class of "cures" are placed a number of home-made remedies, which, either through ignorance or superstition, have been advanced as treatments for tuberculosis. Some of these are onions, lemons, rattlesnake poison, coal dust, lime dust, pig's blood, dog oil, milk "strippings," and even alcohol.

None of these remedies will cure consumption, declares the National Association. No drug, gas or other material has yet been discovered, which, when eaten, inhaled or injected into the system, will kill the germs of tuberculosis without doing serious injury to the body. The only real cure for tuberculosis recognized by the National Association consists of the combination of fresh air, good food and rest taken under the direction of a competent physician.

The Chicago Tuberculosis Institute, having headquarters in the Otis Building, is prepared to supply Chicago clergymen with literature on tuberculosis which will be of service in the preparation of sermons for "Tuberculosis Day." Requests for printed matter will receive prompt attention.

CHICAGO BIRTHS.

Data recently compiled by this Department show that there has been a material improvement in the matter of reporting births in Chicago during the current year.

At the close of the first nine months of 1912 a total of 31,346 births had been reported, an increase if 9,878, or 46 per cent., over the corresponding period of last year. This improvement at least the greater part of it, is undoubtedly attributable to the fact that the County Clerk is paying the fee provided by law for each report of birth made to him. This is the first year that Cook County has appropriated funds for paying for reports of birth, although the registration law requiring such payments has been on the statute books since 1903.

The improvement noted is pleasing, but it is not satisfactory. On the basis of the birth-rate of this city as ascertained from the federal census of 1910, there have been, approximately, 11,800 births in Chicago from January 1, to September 30, 1912, which have not been reported as provided by law. If this proportion of failures is maintained to the close of the year there will be more than 15,800 unreported births for the year 1912.

It is evident that wholesale prosecutions for violation of the law are in order.

LEAD POISONING.

Among the deaths reported to this office there recently was one worthy of special note. The assigned cause of death was "chronic lead poisoning"; the occupation of the decedent was given as "teamster." Inasmuch as chronic lead poisoning is known to be usually the result of occupational environment, the classifying clerk could not reconcile the cause with the occupation stated, and accordingly he called upon the certifying physician for additional light on the case.

The symptoms described pointed conclusively to chronic lead poisoning; the occupation of the deceased had for many years been that of a teamster; there could be no connection between the poisoning and the occupation. The physician was sure, however, that the poisoning was the direct result of the habits of the deceased.

It appears that for years this man was in the habit of arising very early every morning and immediately after dressing would go to a nearby saloon and get the first beer drawn, beer that

had stood all night in the lead pipes connecting the keg in the cellar with the faucet behind the bar and, as is always the case where gaseous beverages are held in contact with lead, some of the lead was disolved by the beer, thus making the beer a lead-poisoned beverage.

Soda fountains, pop-bottling machinery, beer pumps, in fact all apparatus used in the manufacturing, storing, drawing or bottling of carbonated beverages are required by law to be free of danger from lead contamination. Lead pipes ahe prohibited; block-tin is an acceptable substitute.

In this connection it may also be remarked that the cautious housewife will always drain off the water which has stood all night in the house water supply pipes. On returning to a house that has been closed for a period of time it is especially important that the water taps be opened, permitting a free flow for a minute or so.

FORMER CHICAGOAN WINS NOBEL PRIZE.

Rejoicing over the award of this year's Nobel prize of $39,000 for medicine to Dr. Alexis Carrel of Rockefeller Institute, New York, was accompanied at the University of Chicago yesterday by a tinge of regret that the honor could not again have come to the Chicago school. Dr. Carrell, however, is widely known here, where he worked for two or three years, and his Chicago colleagues feel as if he were one of their own number still.

The regret that the prize went to some other institution was increased by the fact that Dr. Carrell practically did all of his first American work in Chicago and that, in fact, the hardest and most painstaking part of the achievements for which he was honored, Dr. Carrel studied out at the University of Chicago.

With this hold on the man and his work members of the physiological chemistry department at the Midway discussed the award with a touch of pride.

Dr. Carrel came to America in 1905, atfer receiving his degree of doctor of medicine in France in 1900, and traveled west through Canada. On returning East he passed through Chicago and decided to remain here for his researches. He had even then for some time developed advanced ideas on the suture of blood vessels and Dr. S. M. Stewart, chairman of the department of physiology at the university, gave him space in the laboratory to carry on his experiments.

According to Dr. A. P. Matthews, now chairman of the department, the young Frenchman was looked upon among his fellows as a coming member of the profession. The particular idea Dr. Carrel then had in view was to grow severed blood vessels and arteries together without forming blood clots. By the use of vaseline and skill in technique seldom seen, he at last accomplished his purpose and the way was opened for further experiments.

The next step to be undertaken was transferring organs from one animal to another and he went so far in this direction as to take organs or parts of organs that had been dead and preserved for several weeks and with these replace missing parts in living animals.

His work attracted wide notice and Dr. Carrel received an offer from the Rockefeller Institute, which he accepted.

An effort was made at the time to keep the brilliant scientist here, but the university trustees did not agree with the proposal. As the institution with which a person honored in any manner is connected to a great extent shares that distinction, there is a feeling along the Midway that the University of Chicago has missed an honor to which it really is entitled.

During his researches here Dr. Carrel had as his associate and co-worker, Dr. Charles Claude Guthrie, now professor of physiology at the University of Pittsburgh. How much of the credit for what they accomplished together was due to the skill of one or the other neither ever said, but it is known that the assistance of Dr. Guthrie had a great deal to do with the eventual perfection of Dr. Carrel's ideas. The articles contributed to scientific journals invariably were published over the names of both surgeons.

Friends of Dr. Carrel who knew and admired him when he lived here, were warm in their praise of his efforts. Dearly as the average Frenchman loves his glass of wine with his meal, Dr. Carrel denied himself even a sip that his hand might remain steady for his work. He liked to smoke, but stopped the use of tobacco entirely as the trail of the elusive discovery became warm. When making an evening call he would take his leave at 9 o'clock and hasten to bed.

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WIFE BEATING.

By W. F. Waugh, A. M., M. D., Chicago

Should a man beat his wife? Should any man ever, under any imaginable circumstances beat his wife? Or kill her?

Quite recently the newspapers generally announced that a neurologist had proposed four maxims governing the relations of men with their mates:

When you find your mate, take her—she awaits it.

When you have her, live for her—she craves it.

If she makes you jealous, beat her—she needs it.

If she betrays you, kill her—she deserves it.

Subsequent investigation showed that far from advising these summary methods, Dr. Waugh was merely endeavoring to explain the actions of some few men, and suggesting the state of sentiment that prompted their dealings with their women.

Taking his view we ask, are there some men to whom this statement really appeals, and there are some women who expect to be treated as the cave men treated their mates.

It is a difficult question to approach. Women are so accustomed to being called angels that they expect it, and resent any intimation that they are not. Yet they are merely human, and must admit that at times some women act in a way that is not exactly angelic. Let us drop the high-flown language of compliment and treat women as we would any other specimen of the animal kingdom—in terms of scientific truth.

There are several phenomena that deserve attention. Whenever a particularly brutal criminal is jailed, a murderer of unsual ferocity, the women run after him, throng his cell to bring flowers and other testimonials of the interest he has excited in them as a man—a masculine thing. Why do they do this, if it not be from the instinctive, long-inherited dependence upon brute force, transmited from their Troglodyte forbears?

Why do some women show the black eyes that their men have decorated them with and brag of the affection that induced jealousy and thus prompted the abuse?

Why is it that the domestic tyrant who does not allow his wife a mind of her own, is respected and loved by her—a thoroughly good and true woman; and when the tyrant dies she enshrines his memory and worships him, while ordniary respectable men like ourselves never get a smudgeon of such deference while alive, and when we die our wives take our savings and decorate so as to catch another man? Why is it that the most devoted and the happiest of wives

is she who is always a little afraid of her man?

Now to all this our fair ones enter a voluble, energetic and unanimous dissent. Never! Words fail to express their detestation of such doctrines. Yet it is notable that every married woman whom we have consulted agreed with the cave man maxims above quoted. What? No? Just wait—here is a little dialogue that we have had with many of the ladies:

"Don't you know some women who need killing?"

"Certainly I do!" The answer comes quickly, without hesitation or reservation. She thinks of that peroxide widow who has her hooks out for her husband.

"Don't you know some women whose husbands ought to beat them up?"

"Yes I do!" The reply is no less decided.

Possibly there may be a wife who does not agree, but send her here and we will engage to convert her in short order. We know of women who in a week would make her doubt whether the earth is really solid and steady; women who would delight in the chance to startle her out of her complacency.

The modern man and woman are in truth the cave species with a veneer covering their pristine savagery. Occasionally there is an outbreak, or a reversion-type appears to remind us of the springs of our racial origin. But this only emphasizes the long distances we have traveled, and the superiority of modern methods. As of yore, men must be strong and women must look for strength in their chosen protectors; but there are better ways of winning and keeping one's mate than those of the Troglodyte. Strength may be manifested in better ways than by physical effort. The force of will that requires demonstration is not much. The quiet force that is felt without the need of display is effective. It is never a matter of pose, but of fact—if you wish to be master in your own house make yourself such a man that the family will look up to you without being commanded to do so.

Nothing is farther from the spirit of this discussion than an encouragement to illtreat their wives. As one poor soul exclaimed, "men need no encouragement to make them meaner than they are now."

To which we utter a fervent Amen.

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ANTERIOR URETHRITIS.

By O. A. Donnelly, M. D.

The local treatment of urethritis anterior is at the present time treated by; hand syringe, irrigation's with the four ounce syringe and retro-irrigations with the soft rubber catheter each of which is attended with the usefulness or disadvantages according to the attending physician's choice of methods.

There is no doubt that the principal reason why acute cases of gonorrhea vary so much in their respective severities, from one where there is a slight discharge with no other symptoms or prostation, to the one where the discharge is continuous and accompanied with great tenesmus, pain and very pronounced prostation is due to a mixed infection, or the presence of other organisms.

In the ten years' experience that I have had in treating these cases, I find the half ounce syringe coupled with the use of hydrostatic flushing to be the most effective.

First, by gently irrigating the first portion of the urethra with a solution of KMNO3 and afterwards injecting a 1% solution of argyrol, being very careful not to over dilate the urethra or to inject forcibly and thus cause trauma to the mucus lining and massaging the urethra in order to force the fluid back to the triangular liga-

ment the patient then holding the injection for ten minutes, whereby the fluid is kept in contact with the tissues sufficiently long for their best bacterial action.

The manufacturers of Argyrol recommend the use of much stronger solutions, but I find that this is strong enough for the average case, and, in dispensing always have same placed in a dark bottle, as exposure to the light causes a deterioration in a few hours and it then becomes more or less irritating.

After having started your treatment watch the discharge closely, and, if there is an increase in discharge or the urine increases in its turbidity, the strength of the solution is to be decreased but if the objective symptoms improve increasing strengths of the solution are employed.

After a week or more the Argyrol solutions are changed to Cargentos, this in turn being increased to a 10% solution as the case may warrant, it is well known that Cargentos is the most active bactericidal agent of all the silver salts although it has a tendency to increase the flow of mucus.

As the urethra becomes tolerant quickly to any drug used continuously, a change from one to the other is usually beneficial.

As solutions of the silver salts rapidly disintegrate they should always be prepared extemporaneously from the salt itself and not from stock solutions as many pharmacists are wont to do as their efficiency is impaired and they are quite apt to become irritating.

In three or four weeks when the discharge becomes mucoid in character the bacteria gonococci have disappeared and at this time it is well to substitute an astringent wash, such as ZNSO4 Pb (C2H302)2 with a few drops of the aqueous fluid extract of hydrastis, being careful to have the mixture filtered, after the reaction has taken place and not dispensed, as a shake mixture for the freshly prepared zinc acetate, which was so much sought by the old school, is positively most irritating; this can be alternated with the silver salts using each twice daily A. M. and P. M. holding in the urethra for a period of five minutes for each treatment.

At the end of thirty days the silver salt solutions are omitted using the astringent wash until the urine is free from all shreds.

The internal remedies can usually be discontinued about the third week and a greater variety of diet allowed although alcoholics and coitus are prohibited for at least a month after the injections have been stopped.

Stripping of the urethra is to be severely condemned as a test can be easily made by the use of irritants if not certain that the bacterium have all disappeared.

In case your patient can not visit your office each day, instructions in the use of the syringe are very essential, as but few are competent to use same and unless you are very careful on this point you will some time be confronted with a bad case of stricture, more being caused by poor syringing than by the use of solutions too strong.

In the female we find that the astringents are productive of better results than the silver preparations, being careful not to get your %'s too high KMNO3, zinc acetate, alum with boric acid for the base forms a most excellent treatment and with strict regulations regarding sanitary measures and the diet closely adhered to speedy results are inevitably the result.

The frequency of colon bacillus and gonococcic infection of the urinary tract in women, especially pregant women, has been so forcibly called to our attention that it must be a common occurrence in general practice, and judging from the tardiness of the recognition of this disease it would seem probably

that it is not rarely overlooked by the general practitioner.

As cystocopy is necessary for a positive diagnosis, and as the use of the cystocope and catheterizing the ureters is not yet an accomplishment of every specialist, not to mention the general practitioner, there is an additional reason why pyelitis is more frequently overlooked or mistaken for appendicitis than ought to be.

Cystoscopy must be in the near future as much a routine method with the general practitioner, as auscultation or thermometry, and as the instruments for the purpose are now so perfected and the method so easy to learn, there is no excuse for its continued neglect.

The diagnosis being established, the treatment by boric acid for irrigation of the bladder, instilation of emulsion of silver iodide with the internal administration of urinary antiseptics will cure a disease that has often in the past baffled diagnostic and therapeutic efforts.

PROFILE ROCK.

(Written by Dr. Grace M. Norris Ashton, to accompany a picture of this far-famed rock.)

Drs. Robert Ashton and his wife, Grace M. Norris, Ashton, have decided to remove from New York City to Little Falls, N. Y., to locate for the practice of their profession.

This beautiful little town is located between two great limestone ridges, which tower hundreds of feet above this manufacturing hamlet. From their office window they can plainly see the great stone cliff, which gazes down on the little city, as it has done for thousands of years, before the white man had penetrated this region of the country. It is known as "profile rock" and is one of the most curious manifestations of nature in the world. The stone face presents a forehead, nose, eyes, mouth and chin.

This sphynx of the Mohawk Valley, has stood for ages, overhanging the Erie Canal, at the eastern entrance of Little Falls.

The stoic countenance seems to challenge all who enter from the direction of the Orient. Geologists say that it is the most picturesque and extraordinary work of nature in existence and

Profile Rock

that no more remarkable "freak" of nature is found, even in the region of strange formations, the "Garden of the Gods."

Travelers have gazed at it from R. R. trains. Postal card pictures and snap shots from stray cameras have caused the likeness of the "stone face" to be scattered over the globe. The Mohawk valley is rich in historical material of events happening during Revolution-

ary days and it is said that the "Six Nations" held their councils under its frowning visage.

General George Washington and his "staff" often passed this rock and when Benedict Arnold with his troops came up the valley on his way to relieve the helpless garison at Fort Stanwix, who were surrounded by the hostile forces of the British Hessians, Tory and Indian, they also passed in review before the "Stone face," which gazed sternly on them out of its moss-covered eye orbits.

CONVENTION FOR STUDY OF SPONDYLOTHERAPY.

Our readers will find the announcement that follows this of interest to all. A very interesting program is therein given. We are sure that many will be glad to attend the First Annual Convention of The American Association for Study of Spondylotherapy, Chicago, Ill., Nov. 12, 13, 14, 1912.

Tuesday, 2 P. M., Nov. 12.

Opening Exercises—Invocation.

Address—What Constitutes the Practice of Medicine? The President, Dr. Charles F. Anderson, Lexington, Ky.

Response—Dr. A. S. Burdick, Chicago, Ill.

Business.

Some New Things in Spondylotherapy —Dr. Albert Abrams, San Francisco, Cal.

8:00 P. M.

Social Occasion—Parlors of the Hotel Sherman.

Wednesday, 10:00 A. M., Nov. 13.

Diagnosis and Cure of Pseudo-Visceral Disease with Spondylotherapy—Dr. Geo. C. Jarvis, Philadelphia, Pa.

Relation of Osteopathy to Spondylotherapy—(Secy. to Nat. Osteo. Ass.) Dr. Earle Willard, Philadelphia, Pa.

Cases—Led by Dr. F. B. Gottschalk, Chicago, Ill.

Reflexes by Manipulation with Clinics —Dr. Chas. Anderson, Lexington, Ky.

My Own Experience and Cure—Dr. E. J. Barshear, Lexington, Ky.

2:00 P. M.

Spinal Reflexes in Disease of Women—Dr. Chas. Ireland, Columbus, O.

Relation of Spinal Reflexes to Neurasthenia — Dr. Nathan Rosewater, Cleyland, O.

Checks on the Vital Current—Dr. R. Harvey Cook (Retreat) Oxford, O.

Orificial Reflexes and Spondylotherapy —Dr. E. H. Pratt, Chicago, Ill.

Wednesday, 8:00 P. M.

These Nerves of Ours—(Popular lecture), Rev. Dr. Porter, Lexington, Ky.

Dr. Albert Abrams — With clinics, cases, reports, etc.

Thursday, 10:00 A. M.

Spinal Deformities and Methods of Correction—Dr. Alexander Vertes, Louisville, Ky.

Demonstrations of New Methods of "Fulguration"—Dr. W. G. Clark, Philadelphia, Pa.

Spondylotherapy and the Sphygmomanometer—Dr. C. O. Mums, Oxford, Ohio.

Spinal Reflexes in the Cause and Cure of Goitre—Dr. S. Stuart Johnstone, Chicago, Ill.

Thursday, 2:00 P. M.

The Atlas 6th Dorsal and Ceccyx in Disease—Dr. V. D. Ireland, D. C., Chilicothe, O.

For the Good of the Profession—Dr. F. W. Waugh, Chicago, Ill.

The Use of Spinal Methods in Digestive Disturbances—Dr. A. W. Herr, Cleveland, O.

Some Things New in Spondylotherapy (Con.)—Dr. Albert Abrams, San Francisco, California.

Responses—Dr. J. Madison Taylor and others.

Adjournment.

The Wisconsin
Medical Recorder

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We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 OCTOBER, 1912 No. 10

WEEDS—VEGETABLE AND HUMAN.

Returning to Chicago to live after several years absence from this city as a place to reside, the large growth of noxious weeds that is so universally prevalent and that are permitted to develop and to spread their myriads of seeds broadcast to insure large crops for another season is both surprising and unaccountable.

Aside from the special hatred for them acquired by the writer, when as a boy he was obliged to assist in their suppression and destruction and to constantly oppose their growth, their unsightly presence, where carefully cared for lawns and parkways should be seen, demands a protest against their continued existence. The penalty of carelessness and neglect, in many instances impossible to prevent, because farm laborers can not be secured, is to be seen by observing the condition in the Eastern states where discouragement because of this condition, has led to a deplorable and difficult condition in this respect, which presents a problem of great moment and massive proportions.

The success which has attended the patient labors of the Western farmer, especially near Chicago, has largely eradicated weeds from their fields and the highways. The crops of grass and hay that are now secured in the place where weeds formerly grew abundantly pays for all the labor required in their subjugation. The supplanting of the old style fences by those of modern construction has greatly helped in the successful prosecution of this crusade, as the old fence corners were such fruitful hiding and breeding places for weeds.

The railroads have also been fighting a consitent, persistent and therefore successful battle along the same lines and have freed their "right of way" very thoroughly of the weeds that once grew there.

Thus has the Country shown the City how the task can be accomplished. It is certainly a very slovenly and unsanitary condition to be allowed to prevail along so many of our streets and prominent boulevards and on the vacant lots everywhere, this entirely unchecked growth of these vegetable parasites. They have among their foliage millions of germs that find lodgement there when carried to them in the dust clouds to be again set free to contaminate the atmosphere when some stiff breeze from another or even the same direction stirs them again and dislodges them. The baneful influence on our respiratory pasages of the pollen from the ripened plants is well known to medical men and to most other people. How silly to endure their presence when we are fully aware of the harm that they cause in these and other ways. Crowding out

and preventing the growth of the pretty and beneficial, instead of harmful, lawn grasses being another one.

We have not informed ourselves what the laws governing these growths in Chicago are. If there are any, they are certainly not enforced. It is high time that this matter receive proper and particular attention. Only a few days ago we noted in a newspaper the advice of a man well and very favorably know in many of the states as an agriculturist and horticulturist, that one of the most important of the duties incumbent on everybody at this season of the year was the pulling up and gathering into piles all weeds that had managed to escape and reach maturity, that they might be burned and thus utterly destroyed.

It is also to be noted that this is enjoined by scriptural teaching, as the best way to dispose of weeds. While thinking on this subject we have been tempted to moralize on the condition discussed and compare these vegetable parasites to those of the human family, that infest our city, country and nation and the whole world. We can see many analagous similarities between the vegetable and animal undesirables. Both develop best in fields or places which are not occupied by good crops or ideas or purposes; whether in the soil of the earth of in that of inefficient and purposeless or evil-designing brains. Both can be esaily torn up with their roots at the commencement of their existence, whether it be a weed of any kind or a bad habit. Both become extremely difficult to relaim when they have become firmly entrenched in the soil or in people's lives. Both require constant and vigilant watchfulness and attention to keep them from appearing again from latent seeds or overlooked rootlets, when it is supposed that they have been permanently conquerred.

It is also necessary to guard carefully from the contamination of neglected and infested adjoining fields and examples which so readily sow new seeds in the soil that has been cleared at one time but can not be expected to remain clear without making continual efforts in that direction. Both sow the seeds of their own lives to perpetuate themselpes, the animal as surely as the vegetable by their way of self-propagation. Both are sure to be found in the neglected, uncultivated and waste places.

Both may deceive others, as to their real nature for a time, but a more complete development shows them in their true character. Both are more dangerous when they appear to be like some useful plant or person. Both should give place for the cultivation of good fruit, of use to the world. A great difference is that the human weed can be changed by cultivation and God's grace to be what it was intended to be a blessing to himself and all of his associates. Each of us has a duty to perform with respect to both varieties. May we be willing and anxious to do our part in their reclamation."

It was Lincoln who believed "in plucking a thistle and planting a flower wherever a flower would grow, as he wen through life. If we could only remember this always in the hurried daily round, how much we might brighten the world. Pulling the thistle of vexation from our neighbor's tone, and leaving a laugh in its place; supplanting the ugly suspicion in some heart with restored confidence; plucking discouragement from a weary worker by a deserved commendation—these things are daily within our power if only we were more watchful."

—Great Thoughts.

When I saw that engine jump the track my heart was in my mouth.

Yes, and your heel was on my toe.

An excellent antiseptic in eye surgery is mercuric iodide 1-5000 solution.

WASERS, COMERS, ISERS

Homer Clark Bennett M. D., Lima, Ohio.

When you hear a feller tellin' o' the big things he has done,
A braggin' 'bout the medals, an' the trophies he has won,
An' showin' his importance an' swellin' out his chest,
An' makin' you feel only one with him most all the rest:—
You can bet your bottom dollar that there's surely somethin' wrong,
For if you just investigate, it won't take very long
To find out that his bankers don't rate him very high,
An' that his wife won't cry a lot, if he should chance to die.

It's just that sort of feller that will set aroun' an' wait,
Expectin' folks to bring him all the good things on a plate,
An' while the world is movin', he keeps livin' in the past,
As if it was appointed that his luck would always last;
When you meet up with that feller, if you trace his record back,
You don't find dust a flyin' in the air along the track;
Then you're safe to make the gamble he's a "has been" gettin' late
You can classify his species as a "waser" sure as fate.

When you hear a feller shoutin' o' the things he's goin' to do,
An' pointin' out the prospects which the future has in view,
An' layin' plans so intricate no architect could beat,
An' buildin' castles in the air, on both sides o' the street;
You can set it down in black an' white the music o' that tune
Wont set the world to whistlin', an' most likely mighty soon
His rockets they will peter out, an' end up just in smoke,
An' when the sticks fall with a thud, it all will be a joke.

He's probably the person to get out in the front,
An' while the rest are pushin', he'll stand aroun' an' grunt,
An' when the work is over, if it happens to be right,
He'll strut aroun' as if he owned all real estate in sight;
But if perchance the scheme fell through an' didn't make a go,
He'd be the first to set right down, an' say: "I tol' ye so";
When you classify his species you can fill his label out
As a "will be," may be some time, an' a "comer" without doubt.

When you see a feller walkin' 'roun', an' keepin' mighty still
An' takin' in the sights an' sounds an' workin' with a will,
An' doin' all the little things that happen in his way,
An' actin', just as if he liked that very job today;
Just rest assured the time will come when he will find his place,
An' meet some great emergency an' benefit the race,
For the feller that's in practice, will just as like as not,
Have both hands free to grab the chance, like "Johnny on the spot."

He may not be a hero an' set the world ablaze,
He may not get the plaudits of the people now a days,
He may not win the laurels, nor wear a kingly crown,
He may not keep from fallin', but you cannot keep him down;
When the "waser" is forgotten in the mist of yesterday,
When the "comer" still is waitin' for tomorrow far away,
You can classify the species of this feller anyhow,
Of the twentieth century present as an "iser" in the NOW.

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THE DOCTOR'S LIBRARY

International Clinics: A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A. Volume III. Twenty-second Series, 1912. Pages 306. Illustrated. Cloth, Price $2.00. J. P. Lippincott Company, Philadelphia.

Some of the articles in the last issue of this excellent work are:

"Professor Ciesielski's Theory of Sex Determination," by S. W. Carruthers, M. D., (Edin.); "How It Happens That the Opening of Plants, Animals, and Men Is Sometimes Male, Sometimes Female," by Professor Theophilus Ciesielski; "The Tonus of the Vagus," by Albert Abrams, A. M., M. D.; "The Modern Treatment of Gout," by Marcel Labbe, M. D.; "The Treatment of Chronic Endocarditis," by Linsly R. Wiliams, A. M., M. D.; "Massive Intramuscular Injections of Double Hydrochloride of Quinine and Urea in the Treatment of Pneumonia," by Solomon Solis-Cohen, M. D.; "Deceptive Onset in Lobar Pneumonia," by Thomas F. Reilly, M. S., M. D.; "The Diagnosis and Treatment of Locomotor Ataxia," by William J. Maloney, M. D., Ch. B., F. R. S. (Edin.); "Spontaneous Gangrene, With the Record of a Case Illustrating the Ordinary Senile Type, Resulting in Spontaneous Amputation, and Spontaneous Gangrene Affecting the Several Extremities Successively in the Course of Acute Primary Infectious Endocarditis," by Albert E. Roussel, M. D.; "The Difficulties Encountered in Differentiating Between Ulcer of the Duodenum, and Diseases of the Caecum, Appendix, and Lower Ileum," by Jerome M. Lynch, M. D.; "Tuberculosis of the Genito-Urinary Organs," by Arthur Dean Bevan, M. D.; "Cancer of the Hollow Viscera of the Abdomen, with Special Reference to Diagnosis," by Miles F. Porter, M. D.; "Epileptic Masks and the Differential Diagnosis of Epilepsy," by Wm. T. Shanahan, M. D.

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The Treatment of Shortsight: By Prof. J. Hirschberg, M. D., Berlin. Translated by G. Lindsay Johnson, M. D., F. R. C. S. with twelve illustrations. Pages 123. Cloth, Price $1.25. Rebman & Company, 1123 Broadway, New York City.

This book is a comprehensive treatise on myopin by a well known German authority and presents the subject from the point of view of the German Ophthalmologist which is considerably different from the general American opinion. German ophthalmologists usually work without the use of a cycloplegic.

Dr. Hirschberg says that it is only exceptionally that it is necessary to paralyze the accomodation muscle. Prof. Hirschberg has had a long and varied experience and his observations are of value to experienced oculist as well as the student. Any person engaged in refraction will profit by reading this book.

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The Chemic Problem in Nutrition (Magnesium Infiltration). A Sketch of the Causative Factors in Disorders of Nutrition as Related to Diseases of

the Nervous System. By John Aulde, M. D. Cloth, 8vo, gilt top, pp. xvi, 410; 4 plate illustrations. Philadelphia, 1912. Price, $3.00, post-paid.

The task of the critic is both delicate and responsible. He must be sufficiently familiar with the subject matter to enable him to decide upon the correctness of the author's premises as well as the logic of his arguments and deductions. His responsibility arises as a result of his authoritative position, since he is supposed to protect his readers against sophistry and fallacious disputation.

In the present instance notwithstanding the radical character of the teachings, the difficulties are more apparent than real, but this conclusion is reached only after a critical investigation of the claims advanced. For example, the volume has to deal almost exclusively with the effects of acids (acid excess), upon function and structure—and the gist of the argument aims to demonstrate that alkalescence of the body fluids (blood and lymph), being normal, acid excess necessarily leads to disorders of function, and ultimately to changes in structure, known as organic disease.

Figuratively, we might consider disease in the abstract as presenting an immense, red (acid) back-ground, through which irregularly appears a thin, blue line of alkalescence, indicative of the enfeebled state of the vital activities. Then, by means of suitable chemicals, to neutralize or eliminate the acidity, the faint, blue line expands until the color-scheme is reversed—and we have faint streaks of red on a blue field. That is to say, under normal conditions, with a single exception, acid is an end-product. An acid surplus, therefore, shows an accumulation in the system of waste material; hence, to restore function and maintain the integrity of structure, two methods are available—neutralization and elimination.

It should be noted here that these teachings, in a measure, verify the adage, "There is nothing new under the sun." In the latter half of the 17th century was founded the iatrochemical sect. According to Sylvius, an industrious student of Van Helmont and Descartes, health depends upon the relation of the fluids, acid and alkaline, their union producing a neutral and milder substance. Two kinds of diseases were distinguished, the result either of acid or alkaline acridity. Founded upon mere assumption and a smattering of chemistry with no definite conception of physiology, iatrochemistry was foredoomed to failure.

A comprehensive index, analytic, synthetic and clinical, covering ten pages, makes consultation easy, and from a mechanical viewpoint the volume is a handsome specimen of the bookmakers art.

We have greatly enjoyed reading Dr. G. Frank Lydston's book, "The Blood of the Fathers." This question is such an important one and withal such a delicate one that the manner which the author has chosen to present it in, viz.: in that of a play is so much to be preferred to trying to handle it in an abstract way and the object lesson of presenting the essential points of the argument in the dialogue employed by the very life-like and interesting characters who are caused to say the things that the author desires the reader to know and to think about, is a very helpful and convincing one.

The depths of mortal agony of mind and body which human beings suffer and continue to endure because of yielding to an infatuation for some one of the opposite sex, without a thought, seemingly, as to the suitability, mental physical or moral of said person to be a life companion and a constant source

of inspiration towards all that is noble and uplifting in each other's lives is surely appaling to physicians, to whom much more of these conditions is revealed, either voluntarily or involuntarily, than to any one else. The gentler sex is more often the chief sufferer from these mistakes. There are causative factors for this deplorable state of affairs and this book discloses many of them. We are optimistic enough to believe that there is a manifest improvement to be noted regarding this matter.

That the subject is engaging the serious attention of many thoughtful and philanthropic people, the suggested regulation of matrimony by law, as respects the physical and mental health of those who propose to unite their lives and fortunes in this way, appeals more strongly to doctors than to the average citizen, especially the younger and more irresponsible ones.

We are not sure that the time has come yet for the enactment and enforcement of such a law and we do not desire to see any more laws enacted that are not to be rigidly enforced, but we are decidedly in favor of such laws. The state certainly has the right to protect its ignorant and usually innocent young citizens from mesalliances, so often productive of great anguish to the individuals and the rearing of incompetents, mentally or physically, to be cared for, eventually, by the state as public charges. The mandlin sentimentality published in so many books and periodicals so freely and cheaply furnished at the present day and so often displayed in picture and other cheap shows so generally prevalent, is no doubt responsible for much of this serious difficulty. The moral instruction of the young does not have as much attention as it should have or as it formerly had and the ideals of what a home should be and of the serious responsibilities resting upon those who propose to establish a new one and of the probable sacrifices that will be necessary, on the part of both contracting parties, to properly maintain it as an institution ordained by our Creator to represent the nearest approach to the happiness that we hope to attain hereafter. Those acquainted with Dr. Lydston as a writer on other professional topics will be sure to read the book and any who are not can secure the volume with no fear of regretting purchasing and reading it.

—J. V. S.

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GET THE "KNOW HOW."

Plan to rest up and post up and attend the special course of personal instructions in Electro-Therapeutics at Hamman,d Ind., Tuesday, Nov. 12-21st, in the new building of the Frank S. Betz Co., given under the auspices of The National College of Electro-Therapeutics, Lima, O., (17th year). Come and meet the live wires. Learn the rules of the game. Find out the short cuts. Hear daily talks by a pioneer expert demonstrating the new ideas, with plenty of modern apparatus. Don't miss it. H. C. Bennett, M. D., M. E., Sec'y, Lima, O.

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New York Skin and Cancer Hospital, Second Avenue, corner 19th St.,

The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a fourteenth series of clinical lectures on Diseases of the Skin, in the out-patient hall of the hospital, on Wednesday afternoons from October 30th to December 18th, 1912, at 4:15 o'clock. The course will be free to the medical profession on the presentation of their professional cards. Charles C. Marshall, Chairman of Executive Committee.

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MICROSCOPICAL EXAMINATION of URINE

G. G. BURDICK, M. D. and THEODORE C. F. ABEL, M. D., Chicago

All urines, or practically all, deposit on standing or centrifugation more or less sediment. This is composed, as is natural when its source is considered, of detritus of various kinds from the various structures through which the urine passes. These are the uriniferous tubules and pelvis of the kidney, the ureters, bladder and urethra.

There is always some desquamation of the epithelium covering the mucous membranes of these organs. This is unavoidable and not abnormal, being due to physiological wear and tear. Thus we should expend to find small numbers of epithelial cells of all kinds present in the sediment without necessarily attaching pathological significance to the same.

When, however, through inflammation, ulceration or other causes, the amount of epithelium from any one location becomes excessive in amount, it will naturally serve as an index to this condition. The only drawback here is the difficulty of distinguishing the different epithelia. Roughly, of course, we can distinguish squamous, columnar and cuboidal varieties, and thus get an approximate idea of their source. Thus squamous cells come from the upper layers of the vagina, bladder, female urethra, and the anterior male urethra, while columnar come from the deeper layers of these organs, and also from the posterior male urethra, prostate, etc, Cuboidal cells as a rule are of renal origin, and especially when attached to casts are hardly ever mistaken. Considerable judgment is required in all cases to correctly interpret epithelial findings.

Another common ingredient of sediment is mucus. This is also normally carried along from the various mucous surfaces, and when not in excessive amounts is not pathological. When increased by catarrhal conditions it usually is noticeable not only in the sediment but on macroscopical inspection.

These two findings, epithelium and mucus, are really the only ones that may be considered normal when not in large amounts. The true abnormal or pathological constituents of the sediment are casts, pus, blood, bacteria and parasites. The various crystalline elements, while not normal, are still not always pathological in significance, being due in many cases to chemical causes, such as change of reaction, insufficient water for solution, temperature, etc.

We should be departing seriously from the established traditions did we not place casts first and foremost among these. As yet, little is known of the true nature of these objects, but that they are abnormal and often pathological no one can deny.

Some substance, whether it be mucus, albumin, fibrin or what not, chokes up

the urinary tubules. The pressure of urine behind this plug pushes it along, moulding it as it goes to the shape of the tube, with a blunt, finger-tip shaped extremity in front. Eventually the cast finds its way to the outer world, and is discovered under the meiroscope, with the usual elation of the laboratory worker and despair of the attending physician.

As the cast travels through the tubules it is liable to pick up any other loose things it may meet, such as epithelial cells, pus cells, erythrocytes, fat droplets, etc., and so we get the casts called by name according to the adherent objects. When there is nothing loose to pick up, the cast will appear in its original condition, as a mass of transparent, hyaline amterial, and is so called.

What the composition of this basic hyaline substance is, as before stated, we do not know. That it is of proteid origin seems undoubted. That it is not fibrin seems also to be pretty well proven. The fact remains that when plenty of water is supplied to keep the kidneys flushed out, casts do not and can not occur.

But as it is, when they do occur, they serve a useful purpose to this extent, that by their adherent material we can judge of conditions in the kidney, as it is a sure thing that anything adhering to a cast comes from the kidney.

It needs but a simple process of deduction to infer that when casts have epithelium adhering to them, there is a desquamative process in the tubules; that when pus cells or red blood cells are attached, there is suppuration in the one case and hemorrhage in the other, that fat droplets denote fatty degeneration and granular debris long-standing destructive changes.

The interpretation of crystalline or bacterial casts must be along the same lines.

As in the true casts, the significance of the so-called false casts or cylindroids is much in doubt. They are probably shreds or threads of altered mucus, similar in nature to the masses expelled from the intestine in mucous colitis.

The finding of pus cells or blood-cells in the sediment is of course not difficult of interpretation, but to determine their source is not so easy. Often this can be decided from the accompanying epithelium, and as often not. It is a common habit among examiners to report bacteria in the sediment, without attempting to identify the species. As a matter of fact, this often requires cultures to determine. Probably those of the most significance pathologically are the tubercle bacillus gonococcus and typhoid bacillus. The two former are easily identified by ordinary staining methods, the latter however requires cultures and often agglutination experiments.

There are no parasites excreted in the urine of sufficient frequency and importance to merit mention. It might be well here to call attention to the trichomonas vaginalis, a harmless parasite, which is occasionally reported as spermatozoa, although such a mistake requires the grossest inexperience.

Occasionally, in cases of spermatorrhea, or after coitus in both sexes, true spermatozoa are found which should be easily recognized.

Leaving now the organized sediments, which are of the most interest from a clinical standpoint, we may briefly take up the unorganized or crysalline sediments.

The urine is naturally a feebly acid liquid, carrying in solution a number of salts of varying degrees of solubility, and more or less unstable chemical equilibrium. A diminution in quantity of the urine, a change of reaction to distinctly acid or alkaline, a rise of temperature, or a decrease of the same, in each case will cause some of these

salts to be thrown out of solution.

An increase in acidity will cause precipitation of the urates, either as such or in the form of uric acid. These same salts will be thrown down by a diminution in quantity or a lowering of temperature of the urine.

On the other hand a change to alkaline reaction or a rise of temperature has a tendency to precipitate the phosphates, either as calcium or ammonio-magnesium (triple) phosphate. The latter is most often found in decomposed urine, where the alkalinity is due to ammonium carbonate. The finding of triple phosphates in freshly voided urine urine is strongly suggestive of decomposition in the bladder, with probable cystitis.

The significance of calcium oxalate crystals is not quite so clear. Normally oxalic acid is not found in the urine, and we must consider its presence as indicative of a disturbed metabolism, oxalic acid being formed during the synthesis of uric acid and urea.

Oher rare crystalline sediments of some significance are leucin and tyrosin and ch lesterin, usually derived from the liver, and cystin, the source of which is not quite clear.

In a general way the fact remains undisputed, that with urine of the proper concentration, reaction and temperature no crystals will be deposited. The significance of crystals is great, however, in this way, that a urine which deposits crystals into vitro may do so in vivo. In other words a tendency to formation of renal or cystic calculi is thereby indicated, unless the changes are clearly extraneous, that is, brought about by causes acting after the urine has been voided.

DEPT. OF SURGERY

By Hugh N. MacKechnie, A. B., M.D C. M., 7 W. Madison St., Chicago

The choice of anesthesia and anesthetist deserve consideration. It is unfortunate that most of our hospitals deem this department of so little importance as to put an inexperienced interne at a task on which so much depends; it is also unfortunate that our patients consider the risk so lightly that they will not consent to the fee necessary to have a professional anesthetist; and it is unfortunate that so many of our surgeons will permit an inexperienced man to give anesthetics without some supervision or guidance. I believe that much of the danger, much of the nausea and the depression can be eliminated and convalescence markedly shortened by a carefully evenly administered anesthetic For anesthesia I prefer gas—oxygen—ether because of its safety and its minimum of nausea and distress, but it has the disadvantage of a cumbersome apparatus and the necessity of a trained anesthetist. Ether is next choice because of its greater safety although the nausea and distress are usually greater. Chloroform is last especially if given by an inexperienced man. The cardiac depression produced by it in deep anesthesia makes it undesirable except under careful scrutiny. All general anesthetics should be preceded by a hypodermic of morphine sulphate gr. ¼, to decrease the dread of the anesthetic and operation, to decrease the quantity of the anesthetic, and thereby decrease the amount of shock produced.

In all operative procedures since the exit of sepsis, shock is the topic uppermost in our minds. Too often we think of shock as that condition from which our patient dies instead of that condition of nerve weariness from which our patient suffers while living.

Much good work is being done by Crile in studying the effects of surgical procedure on the nervous system. He

claims and demonstrates that the same condition is found in the brains of animals exhausted from work or play or fear, as is found in animals operated on; the inference being that shock is exhaustion of the nerve cells. The degree of the same can be rasonably exactly demonstrated by microscopic examination of the central nervous tissue. If Crile is right and there can be little doubt from his demonstrations that he is, then it is the duty of every physician and surgeon to make use of his principles and to treat his patients in accordance with them. This will entail a sympathetic understanding between patient and surgeon, a minimum of pre-operative demonstration and preparation; a sedative preferably morphine; a carefully and properly given anesthetic; a minimum of operative manipulation, and a rapid exit from anesthesia into a quiet restful atmosphere.

A discussion of operative technic would lead far afield of matters which are pertinent to this paper but a few points of importance in the general care of the patient in the operating room may be mentioned.

Too little attention is paid to protecting the patient from drafts and sudden cooling of the room. If modern ventilation is not installed windows and doors, except for cleanliness, need not be kept closed but the patient should have a screen between him and the door or windows while the temperature of the rooms should be kept up to 85°. A light blanket should cover and protect him and after operation he should be carefully dried and rubbed with alcohol. He should be gotten into a warm bed as quickly as possible, care being taken while pasing through hallways not to chill him.

These are points too lightly considered by nurses and internes and should be carefully supervised.

I have heard a noted surgeon say concerning post-operative treatment: "Leave your patient alone and let him get well, you have done what you can," and I have found it a good rule to follow providing you know your patient is getting well as rapidly as possible and is as comfortable as he can be made.

Too great activity is frequently as harmful as inactivity by arousing a sense of fear in the patient or by shock from dressings or other treatment. By this means patients who are almost "over the summit" are sometimes started on the backward grade which may lead to a serious and often fatal termination.

Two drugs I use in almost every case, viz.: Strychnine Sulphat gr. 1-30 every four hours and Morphine Sulphate gr 1-16-gr. ¼ as required.

The strychnine relieves the awful cause of depression following prolonged anesthesia but isto be used carefully in myocardial or endocardial lesions or where the intravascular tension is very high. The morphine decreases the sense of depression following prolonged anesthesia, it relieves pain and by both actions decreases the amount of shock. On the other hand great care must be exercised in its use that it does not induce intestinal stasis nor suppress the action of the kidneys. High normal saline proctolysis given by drop method at 110° F. is of value in a great number of operative cases. It is particularly recommended in cases of shock from marked loss of blood or from prolonged operation, in cases where renal insufficiency is pending or present, where we have sepsis, or frequently where there is marked nausea and vomiting with great thirst and an inability to retain anything on the stomach. It is also valuable in producing a mild early peristalsis with easy passage of gas and feces.

One other procedure should be spoken of in connection with the treatment of shock whether from loss of blood or manipulation. In these con-

ditions there is an exhaustion of the nerve cells calling for fresh food, there is an inability of the blood forming parts to supply this lack and from the centers a call for help. If strychnine and other stimulants fail, if hypodermoclysis, proctolysis and intravenous transfusion fail and the patient continues to sink, then we should resort to the trnsfusion of blood. There is much criticism of this procedure particularly due to the hemolysis so often produced. There are tests to perform which will indicate the probability of this—but these all take time. With a patient dying we are not justified in waiting too long for laboratory tests provided we can get a wiling donor without taint and with a good history. True in most of these cases some hemolysis will occure but we may get a sufficient quantity to turn the tide in favor of the patient and if not our failure will be no worse than the inevitable result without the attempt. I have seen such good results in apparently hopeless conditions that I do not hesitate to heartily endorse it.

Where intestinal stasis with tympany occurs early, the hypodermic injection of esserine Salicylate gr. 1-32 every three hours has in some cases produced excellent results while in others it has been disappointing. If the stomach can retain it a mild laxative in small doses is given early even in cases where the intestines have been thoroughly cleared before operation, provided there is no contra-indication to its use by the insertion of drainage or by intestinal surgery. In these cases if the intestines require clearing a small low enema may be given and repeated to produce a careful, gentle peristalsis.

A liquid diet that is easily digested may be commenced as soon as the patient is able to retain it. This will include milk, broths, gruels, tea, coffee, cocoa, malted mlk, buttermilk, blanc mange.a nd unsweetened jellies.

As rapidly as possible this is increased to a general diet reaching this about the time or shortly following the first free stool indicating good peristalsis and precluding an obstructive ileus.

To overcome the lassitude and muscular weakness following operation the sitting posture is assumed as early as possible—usually on the first day—and locomotion is commenced as soon as the patient can be persuaded to make the attempt. Early deep massage, and I say deep as opposed to the usual skin rubbing that is performed, will materially aid in keeping up muscular tonicity and preventing the muscles from becoming soft and flabby. I have suggested at some hospitals the advisability of including a good course on massage in the curriculum of studies. I believe that such a course would be incomparably more valuable than much of the theory our nurses are at present compelled to learn. Our patients would often get a needed treatment which is otherwise beyond their reach either from incompetence in the nurse or for financial reasons, and in the end the patient, the nurse and the doctor would be more nearly satisfied with the results and with their production.

I have spoken only of the non-septic type of cases but for the septic there are a few things that are of importance

I think the Fowler proposition with continuous proctolysis to be invaluable. To appreciate the former one has but to consider the anatomy of the abdominal cavity. In the recumbent position pus which reaches the brim of the pelvis has a downward path to the renal fossa and the upper abdomen. In this area lymphatic vessels are very numerous and we have the great body filter the liver in which we dread to find an infection. Any position or the treatment which tends to prevent the passage of infection to this area is of marked value. This the Fowler position does. One must be careful, how-

ever, that the Fowler position is used. I have seen patients with two pillows behind the scapulae and three or four behind the head with a resulting acute angle in the uper lumbar region which was more harmful than good but which the doctor allowed because the patient did not wish to be put in the proper position. Combined with this proctolysis by the drop method will stimulate, will supply the body with liquids and will assist in the dilution of the toxins for excretion.

There are many points which might be taken up for consideration but would call for a more extended writing on individual conditions which it is not the purpose of the writer to cover in a paper on treatment in general.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

ALKALOIDAL THERAPEUTICS.

By A. T. Cuzner, M. D, Gilmore, Fla.

When we commenced the study of medicine it was along the lines of empiricism. Even while we were attending lectures we carried a note book, mainly for the purpose of jotting down medical and surgical formulas and proceedures as furnished by our professors.

Fortunately the Professor of Materia Medica was a gentleman who desired to inculcate principles in preference to making short cuts through the medium of formulas. He taught us what results we might look for medicinally from the use of emetics, cathartics, anodynes, antifebrines, anthelmintics, anaesthetics, and alteratives. He then proceeded to discuss individual medicines of these different kinds, and their combinations one with another, constituting the different formula then in common use, leaving to the professor of the theory and practice of medicine their application in disease. Thus, when we graduated, we were largely dependent on much tried, but often not to be relied upon, formulas. Our Professor had very little to say in regard to the alkaloids, or their application in disease. There were two exceptions to this statement, however; they were the alkaloids of opium and peruvian bark.

Our particular attention was first called to a more extended use of the alkaloids, as specifics of certain abnormal conditions—classed as diseases—by reading in Dr. Taylor's Medical World'' of the appearance of the ''Alkaloidal Clinic'' a journal to be devoted to the advocacy of the preferential use of the alkaloids over galenical preparations in diseased conditions. From that time until the present day, while not wholly discarding galenical preparations, we have largely given the preference to the alkaloids in our administration of remedies. Let me briefly give a few reasons for this preference:

In the first place the crude medicines of vegetable origin, their extracts or tinctures, are not of uniform strength in respect to their medicinal content. Hence any exactness in quantity cannot be depnded upon. Second—In our principal medicines, of vegetable origin, there are located several alkaloids, whose actions in morbid conditions are dissimilar. Third—There are no specifics for disease. But by the use of the alkaloids we obtain specifics for many morbid conditions. To illustrate.

There is a condition very common to those of advanced age and plethoric habit, which for want of a better term, we will call the pre-apoplectic state. Here we find a want of due balance in the blood circulation, and a tendency to undue pressure of blood on the brain. The old plan of treatment for this conditon was by depletion, thus reducing the blood pressure at the expense of the patient's vitality. Now in the alkaloid, atropine, we have an agent which will perform the following work. In large doses it relaxes while in minute doses, say gr. 1-1000 to gr. 1-3000 it stimulates the vasomotors to contract and gives prompt relief in many painful regional congestions. It primarily contracts and secondarily relaxes the aterioles, augmenting the quantity of blood in the integument. Diffusion, not congestion is its work.

Again—In the congestive chills of malarial fever, the chill can be materially shortened by the use of atropine. Nitro-glycerine is likewise of great use in the above condition owing to its action upon the vasomotor centers and overcoming the contraction of the arterioles. Take another example—Sulphide of Calcium for instance. This medicine produces as good results in certain abnormal conditions, not—as is usually considered—by its destruction of the bacilli—but by neutralizing poisons which are produced by excretion in the life processes of such germs.

In an agricultural article we wrote some time ago, and which is now on file in U. S. Agricultural Department, we claimed one of the great values of Sulphate of Calcium, (gypsum) on the soil, was due to its power of neutralizing the poisonous excretions of plants.

There is another remedy—an alkaloid—more extensively used than any other medicne all over the world, quinine. We will mention but one of the many uses in practice to which we can put this drug. In the last stage of labor, where the contractions of the uterus are weak we have found the administration of quinine a great aid to the completion of the process. Nitroglycerine has likewise aided us on such occasions.

But as this paper is not intended for an exhaustive treatise on therapeutics, we will consider but one other alkaloidal remely, introluced to the profession by the Abbott Alkaloidal Company. Namely—the H. M. C. tablet. Here we have a compound instead of a single remedy. In this compound we find the combination to be an anodyne and an anaesthetic, while the cactine holds up the heart against the depressing effects of both the morphine and hyoscine, while not retarding, or neutralizing their hypnotic action.

To sum up. First—In the alkaloids we have much more reliable weapons by which we may combat disease.

eScond—They are more reliable because the doses are more exactly proportioned than the galenical preparations.

Third—Their action is not masked by other ingredients of the crude drug.

Fourth — We can commence our treatment by administering alkaloids to combat symptoms before we have arrived at a satisfactory diagnosis.

A MANUAL OF POISONOUS PLANTS CHIEFLY OF EASTERN

Chiefly of Eastern North America, with brief notes on economic and medicinal plants and numerous illustrations.

By H. L. Pannel, Ph. D., Professor of Botany, Iowa State College Agriculture and Mechanic Arts, The Torch Press, Cedar Rapids, Iowa, 1911. Cloth 8 vol. pp. 977. Price $7.50.

I learned that this work existed through a review in the London Lancet notable for the unqualified commendation accorded an American book. I sent for the volume and have spent many hours in its examination. Pro-

fesor Pammel has grudged nothing to cover his subject completely, as shown by the enormous mass of literature he has studied, and the thoroughness he has given the task. The publications of the Department of Agriculture and the State Experiment Stations, to whose value we have repeatedly directed attention, and a host of other detached papers, have been assembled and classified here. It is a museum in its line.

Poisons are studied in the widest sense of the word—micro-organisms, active principles, and plants inflicting external injury,, as well as those noxious economically. The nature, action and production of poisons in plants are treated, as well as their chemistry and antidotes. The list of the poisonous plants of the world covers 58 pages, the bibliography 57 pages, the index 59 pages.

I do not see how any practicing physician can well do without this book. Even in the cities innumerable weeds grow, which childen are handling or eating. Do you know by sight and symptoms all the wildlings you see in vacant lots of your home town? Do you know them, so as to recognize their toxic affects, and how to promptly apply the remdies? When people ask you the names and natures of such plants, can you answer correctly? I well remember when an English woman asked me if she had been right in administering yarrow for a menstrual disorder! Was she right? Do you know all about rhus, loco weed, larkspur, nutmeg, sand bur, datura, sumach, the effect of rhododendron on the goat, of oleander or of phytolacca on cattle, the etiology of heaves, the properties of catalpa, the action of oak leaves on horses, or of locust bark, the germicidal properties of nucleins, cypripedium, mushrooms, arsenic in plants, crotalism, the relations of the diplodia of maize with pellagra, and if argemone contains morphine? Have you seen Rusby's paper on "The Poisonous Plants of the Vicinity of New York City?" Rolly on Poisoning by Canned Beans? by primula? by strawberries, wintergreen, sorghum, parsnips, fox-tail, potatoes, ergotized hay, alfalfa, snow drop, star anise, Johnson, grass, cotton seed, mountain laurel, silage, and innumerable others? Does every doctor in Minnesota know that her lakes breed a poisonous plant? Do you all know that flowers are poisonous, and that the ripe fruit of rhus is not?

These random excerpts may give some idea of the wide scope of this work, and the innumerable items of practical value to be found therein.

♣ ♣ ♣

COUGH REMEDIES.

By J. A. Burnett, M. D., Hartshorne, Okla.

The following is considered by Dr. Wm. Leland Stowell of New York one of the best combinations for ordinary bronchitis in small children and he recommends it for croup:

℞

Olei recini.
Mucilaginis acaciae.
Syrupi ipecacunhae.
Tinctura opii camphoratae aa ʒ iv

M. Sig. Dose one teaspoonful every two hours for a child one year old. After secretions become more free and the cough less harassing a dose every three hours is often enough. Here is a good allround cough remedy:

℞

Mercury bichloride .....gr. 1-5
Ammonium chloride .....ʒ ij
Spts. fermenti .....ʒ iij
Syr. toln. q. s. ad .....℥ iij

Sig. Dose. One teaspoonful every 2 to 4 hours.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
HENRY F. LEWIS, A. B. M. D.,
Chicago, Ill.

MENTRUATION AND OVULATION.

Menstruation is the periodical loss of blood, accompanied by certain anatomical changes in the genitals, certain changs in the body generally, and certain psychic and neurotic changes in the woman, which marks her sexual life. The menstruation recurs in most women about every four weeks from about the thirteenth year to the forty-fifth, except during pregnancy and lactation. The time of the beginning of menstruation, called the menarch, varies in different races and to a less degree in different climates from the twelfth to the fifteenth year of age. The menarch is coincident with puberty in the female. The time of cessation of menstruation, called the menopause, varies much in individuals, but seldom occurs before forty-five or delays after fifty years of age. The interval of about thirty years between menarch and menopause constitutes the active sexual life of woman, during which she is capable of bearing children and otherwise performing her sexual functions.

Ovulation is the process of ripening and expulsion from the ovary of the mature ovum. In time ovulation closely runs with menstruation, occurring once in four weeks except during pregnancy and lactation, beginning at puberty when menstruation begins and ending at the menopause. The exact relation in time and in etiology between each individual ovulation and menstruation is uncertain, but is known to be very close, in both particulars. The ovaries are filled with ova in various stages of development. As they become more mature the ova, enclosed in their Graafian follicles, approach nearer to the surface. At the time of ripening the Graafian follicle protrudes partly above the surface of the ovary, is filled to bursting and allows the ovum with its attendant nutritive cells to escape into the abdominal cavity and thence into a Fallopian tube. Rarely, in the human species, two or more follicles with their ripened ova rupture. The ovum is assisted in its passage into the tube by the general current of the fluid within the peritoneum and by the action of the cilia of the mucous membrane of the fimbriae and the tube. Somewhere in its journey, usually in the ampullar portion of the tube, the ovum meets the fertilizing spermatozoon, which, with its millions of fellows, has been lying in wait for it, becomes impregnated and thus becomes a new individual. It passes on down the tube into the uterus where it finds the mucous membrane of that organ prepared for its reception by the preliminary processes of menstruation, becomes imbedded in the uterine mucous membrane and continues its development. Thereupon the uterine membrane develops further as the deidua vera and the menstrual flow does not occur. Usually, of course, the ovum meets no spermatozoa, passes down the tube like any other piece of debris, dies and disappears. Thereupon the uterine membrane undergoes degeneration and the menstrual bleeding occurs.

Physiology of Menstruation. The beginning and the ending of the menstrual life are critical periods for the woman. The menarch often appears without warning and without unpleasant symptoms but often begins with various mental and nervous disturbances, varying from slight irritability of temper to mania. In the beginning the periods may not be regular, the intervals may be longer or shorter than normal and the duration of each may be longer or shorter than normal. In a few months the regular type of dura-

tion and interval becomes established, to be characteristic of the individual during her sexual activity. The duration is usually from two to five days, the amount of blood voided is from 25 to 50 cubic centimeters. At each period there is likely to be more or less discomfort, even amounting to actual pain in the lower abdomen or back, the nervous system is slightly disturbed, the thyroid enlarges perceptibly, the breasts enlarge and become slightly tender, the sweat and salivary glands secrete more abundantly, the temperature is sometimes slightly elevated and the body weight is temporarily increased. In most women there are some preliminary symptoms of each menstruation such as tingling and swelling of the breasts, slight disturbance of digestion, flatulence, constipation, diarrhea, more or less pain in the lower abdomen. In a few days the flow of blood appears, sometimes without warning, often accompanied by a little discomfort or pain in the suprapelvic region. The bloody discharge is marked for one or two days and then diminishes, becoming watery and mucoid. Unless there is an abnormal quantity, the menstrual blood does not clot, probably because it is mixed with a considerable quantity of alkaline mucus. Marked clotting of the blood indicates a diseased condition and should be treated. The odor of the menstrual discharge is sweetish rather than pungent and, towards the last of the period, disagreeable. Normally the smell is never foul or cadaveric.

The sexual felings are slightly diminished during the day or two of the greatest discharge but are heightened for several days thereafter. The length of time from the beginning of one menstrual period to the beginning of the next is called the type of the menstruation; thus we speak of a twenty-eight day type, a thirty day type, etc. The time the flow lasts is called the duration of the menstruation. The periodical bloody discharge and the secondary characteristics of the rythmical phenomena of menstruation already described are both produced because periodical alterations in the female generative organs of a perfectly definite anatomical character occur to cause these outward signs and symptoms.

The menopause is the epoch of the cessation of the menstruation. With the menstruation also cease the ovulation and the powers of procreation. The sexual desires usually diminish at this time and gradually cease altogether. The uterus, vagina, tubes, and even the external genitals begin to undergo atrophy. The body fat usually either increases in amount, especially about the hips and abdomen, or considerably diminishes so that the skin becomes wrinkled and flabby. The breasts atrophy in their glandular portions but often acquire much adipose tissue. In short the general appearances of senility begin. The stage of the menopause is a critical period, even more that that of the menarch. There are often neurotic symptoms of various kinds, hot flashes are frequently felt over the body, insomnia and various mental disturbances of slight or marked character ensue, heart palpitation sometimes is manifest. The menstrual flow in the majority of instances diminishes gradually, the duration becomes shorter and shorter and the intervals longer and longer. In some cases the cessation of the menses is abrupt. At this time malignant disease of the uterus and cervix is apt to manifest itself. Menstrual life prolonged much beyond the usual time of cessation or irregular hemorrhages occurring at this time should be carefully investigated by the medical attendant.

The Anatomy of Menstruation must now be considered. Numerous observations and experiments have now given us a fairly definite knowledge of the anatomy of menstruation. Geb-

hardt recognized three stages in the anatomical process of menstruation. The first is that of the premenstrual congestion and takes place during several days before the flow appears. The whole mucous membrane of the uterus swells to twice its usual thickness, the blood-vessels dilate, red and white cells and considerable fluid of the blood extravasate into the intracellular spaces. The uterine glands, by increase in size of their individual cells and probably also by increase in number of these cells, lengthen and become spiral in shape. The interglandular portion of the mucous membrane, the connective tissue portion, increases in thickness by extravasation and by increase in size of its cellular elements. Some of these cells take on the size and appearance of the so-called decidua cells of pregnancy, indeed, it is difficult or imposible to distinguish them individually from the latter. The overfilling of the blood-vessels increases and red corpuscles in increasing numbers escape by diapedesis into the stroma where they form minute areas of extravasated hemorrhage. Some of the red corpuscles find their way into the glands and, through the lacerated epithelial layer of the uterine mucous membrane, into the uterine cavity and thence into the vagina and the outer world. At this time the "flow" has begun and menstruation, in the popular sense, has become manifest.

The second step, that of degeneration of the blood-vessels and cells of the mucous membrane, has already begun before the actual hemorrhage has taken place. Indeed, the degeneration of the vascular walls is probably the reason why the blood escapes. This is in great measure not a fatty degeneration but an amyloid degeneration of the walls of the vessels. The cells of the mucous membrane undergo something of a fatty degeneration. A very small portion of the mucous membrane probably is cast off in shreds here and there, but the great loss of tissue which formerly was believed to occur is never observed in normal menstruation. The period of degeneration lasts during the bleeding. During the latter portion, however, in some places within the mucous membrane of the uterus, even while slight hemorrhage is going on in others, reparative proceses are under way.

The third stage is that of regeneration, during which the generative organs repair the slight losses which occured during their maximum activity. During this stage the extravasated blood which did not escape into the uterine cavity is absorbed, as are the dead and degenerated cells. At this stage numerous cells can be observed undergoing mitotic division, which is always a sign of active growth in tissue. This stage lasts a few days and gradually merges into the stage of rest, which takes up about half of the time. Then the cycle begins again and another menstrual period recurs.

All the genital organs partake of the congestion of the uterus during menstruation and all consequently swell more or less. Some authors have observed a sort of menstruation in the tube resembling in kind but not in degree that of the uterus. The ovaries enlarge from the increase of blood within them, the tubes, pelvic ligaments and interligamentary areolar spaces, the vagina and even the external genital organs, share in the general congestion. The cervix manifests its activity during menstruation by an increased secretion of mucus from its glands, the secreting glands of the vulva and urethra increase their activity and, in short, the whole female genital system undergoes periodically a rhythmical cycle.

The Causation of Menstruation is a subject too vast and too much disputed for us to discuss more than very superficially. Why do all these anatomical processes follow each other so regularly and what produces them? What is the object of menstruation? In what man-

ner can the welfare of the woman and of the race be advanced by this complicated and apparently wasteful process, which resembles so much a diseased condition. The older theories of the etiology of menstruation have been exploded and we must pass them by. A later one, which still is mentioned in many textbooks, and which many of us were taught, is that of Pfluger. His theory is that the growing Graafian follicle, as it ripens, presses upon the sympathetic nerves of the ovary and irritates them, reflexly the blood-vessels of the internal genitals are caused to dilate, and the phenomena of the menstrual epoch result. It is true that irritation of the ovary may produce hemorrhage from the uterus, as has been proved by experiments and by operations upon the ovaries. Halban and others found that ovaries transplanted into the subfascial region of the posterior abdominal wall would functionate and produce ripened ova. Although such ovaries were necessarily removed from all connection with the pelvic organs, menstruation went on just the same. When the ovaries are removed entirely ovulation and menstruation both cease and the symptoms of the menopause come on as if the patient had arrived at the "change of life." Therefore it was suggested that the relation between the ovaries and menstruation was a chemical one and not a nervous reflex.

That the chemical substance which stimulates the uterus to undergo the changes of menstruation and the building of the decidua of pregnancy comes from the glandular activity of the ovary and largely indeed from the glandular activity of the corpus luteum is probable. The theory of the influence of the secretory function of the corpus luteum is still only a working hypothesis but is the best explanation so far made. The corpus luteum developed after the bursting of a Graafian follicle attains its fullest development a little over three weeks after the escape of the contained ovum. Its secretion acts upon the nterine mucous membrane and the pelvic organs in general to cause the congestion, the development of the menstrual decidua and the other premenstrual phenomena. If an impregnated ovum (probably the one from the follicle which bursts just a little before the time of the stated menstruation) reaches the uterine cavity, it finds the mucous membrane prepared for it in the shape of the so-called menstrual decidua, and imbeds itself by the trophoblastic or phagocytic action of its ectodermal cellular layer. Chemical bodies formed during the vital metabolism of the imbedding ovum and the secretion of the further developing corpus luteum of pregnancy cause the mucous membrane of the uterus, instead of undergoing degeneration as usual, to continue its development into the decidua vera of pregnancy. Therefore the blood vessels of the uterine mucous membrane do not allow the escape of blood as in the bleeding stage of menstruation, and the wonderful changes of pregnancy are in full swing. The development of the corpus luteum verum continues until about the middle of pregnancy and then the organ recedes, seeming to be no longer useful to the organism or to the process of gestation.

If no impregnated ovum reaches the uterine cavity there is no further stimulus from the corpus luteum or from the rapidly growing impregnated ovum and consequently the uterine mucous membrane with its vessels degenerates, hemorrhages occur, and the woman "menstruates." It will be remembered that the corpus luteum of menstruation has already reached its full development before the acme of the congestive stage of menstruation. Now begins the development of a new corpus luteum of menstruation from the ruptured Graafian follicle corresponding to the menstruation just passed.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D.
M. E., Lima Ohio

Dr. J. O Chase, 214 E 53rd St., New York City, read a paper at the last meeting of the American Institute of Homeopathy held in Pittsburg, June 17th to 21st inclusive, entitled; "High Frequency Currents Dissolving Renal Calculus." The following case report and tech-nique is valuable.

On Oct. 13th, 1911.—The patient called and on examination symptoms of renal calculus were found.

Nov. 7th, 1911.—An X-ray examination showed negative findings.

Nov. 13th, 1911.—Another X-ray examination showe l negative finding.

Nov. 17th, 1911.—An examination of the urine showed normal, excepting the presence of some indican the patient reported pain in left kidney and an auto-condensation treatment was given with the metal placed over the abdomen instead of the patient holding the usual metal handle and 400 milliamperes of current was administered for 15 minutes—the vacuum electrode being used at the same time over the seat of pain.

Nov. 18th, 1911.—The patient reported that the pain had been so severe the night before that sleep was impossible; cramps, etc., were severe and the urine passed with difficulty.

Nov. 19th, 1911.—Anothr auto-condnsation tratment was given the doctor starting the treatment with the mildest frequency and a minimal amount of current but the dosage was increased at the patient's request because of the tendency to counteract the severe pains.

Nov. 20th, 1911.—The patient reports that the stones had passed the night before and he brought them to the doctor in a handkerchief; one large and four or five small ones.

March 13th, 1912.—The patient had recurrence but less severe, one auto-condensation treatment was given.

March 14th, 1912.—The patient reported that five stones had passed the night before.

This was the last the doctor saw or heard of the case until June 18th, 1912, when he called on the patient for a final report and the patient reported no recurrence. The doctor used in this case a Victor No. 7 high frequency outfit. This is a rather interesting case and demonstrates a new field of usefulness for high frequency auto-condensation current.

IS LIFE WORTH WHILE?

Is life worth while?
With all its ups and downs and guile:
Unceasing toil and never ending strife,
Forms but a cross to bear through life.
Is life worth while? It is.

In youth the fantasies of wealth,
Which in adult age disappear by stealth:
And life's hard measure tempered not with years,
Become in decline our greatest fears.
Was life worth while? It was.

The chain's no stronger than its weakest link,
Endeavors raise men from absymal brink:
To plunge him further into deeper fall.
Is life worth while? It is.

Life's blood is sweated drop by drop
In deeds ambitious by the workers sought:
And laurels gained but to ashes turn,
To be scattered broadcast in the tempest's urn.
Was life worth while. It was.

For in life's chaldron through the breath of flame
Are only life's honors thereby attained:
And the harder the toil and vicissitudes great,
Thus are men's name written on honor's slate.
Is life worth while? It is.

Life's labor lost,
For at the end we are but naught:
And can not take that which we sought,
All goals attained, all honors won,
Was life worth living? It was.
The day is done, the shades of death draw near.
Life's panorama passing fleetly recalls the memories dear:
Was struggling that you labor not in vain,
To make life better not a gain?
Is life worth while? It is.

—O. A. DONNELLY.

DEPT. OF GENITO-URINARY DISEASES

Conducted by
NELSON F. McCLINTON, M. D.
Chicago, Ill.

PAPILLOMATA OF THE BLADDER.

In cases presenting themselves with urinary hemorrhage papillomata should always be considered and that regardless of the character of the bleeding, as it may be microscopical or profuse, continuous or variable appearance of hemorrhage often being months apart, the blood may be intimately mixed with the urine or come only at end of the act of urination simulating a posterior urethritis.

Papillomata belong to the epithelial group of bladder tumors, they consist of a connective tissue framework containing a fine network of blood vessels and are completely covered with epithelial layers usually are pedunculated yet may arise from a considerable area or several may develop on one stalk.

The hemorrhage is due to the breaking down of the epithelial layers with erosion of the vessels. As stated above it may be microscopical or profuse.

I think that the position of growth has an influence on the bleeding, for instance a papillomata near the urethral orifice being in a position to suffer from the frequent contraction of the bladder would necessarily bleed more frequently and profusely than one on the superior surface of the bladder, here also one at the urethral orifice could produce bleeding that appeared at the end of urination and simulate posterior urethritis as stated above. I wish to add that a growth at the internal meatus would be above the orifice not below as practically papillomata are not found in the trigone.

Regarding position, might add that in a case operated upon by us a few months ago a papillomata was found attached to the urethral orifice, this patient had complained of great difficulty in urinating and the explanation would be that this acted as a plug held over the internal meatus by the urine and doubly so by the contraction of the bladder made in the effort to urinate, since the removal of the growth there has been no difficulty whatever in urinating.

There is a differnce of opinion as to the character of papillomata. Some authors claim all are malignant, stating that if enough sections be made of specimen, areas will be discovered demonstrating malignancy, one fact is certain however that they show a great tendency to recur and while not forming metastases outside of the bladder certainly do inside of that viscus. The principal symptom of papillomata is hemorrhage. Pain is infrequent unless a cystitis develops or an obstruction to urination. It must also be remembered that a growth situated near a urethral orifice may obstruct same and the symptoms be referred to the kidney.

The diagnosis is made with the cystoscope and unless the hemorrhage is profuse the growth can easily be demonstrated, in case of profuse hemorrhage with the irrigating cystoscope the field can most always be made sufficiently clear to make a correct diagnosis The treatment. Internal or local medication is useless. The use of the high frequency current, namely the Oudin spark is proving very satisfactory, the length of time required depending upon the size and accessibility of growth. It is not necessary to anaesthetize the patient as by use of eucain or alypin the treatment can be made painless,

It is generally stated that the growths with a broad base are not suitable for treatment with the spark. I do not consider that this should be

made a hard and fast rule as there are growths of this character that can be safely and successfully removed by the spark but the decision as to which ones can be removed will depend on the experience and judgment of the observer and operator.

Those that cannot be removed by the current, surgical measures will be necessary.

DISEASES OF CHILDREN

J. V. STEVENS, M. D.
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COLIC.

Here again we have the name of a symptom rather than of a disease which appears because of pressure on the delicate and highly sensitive nerves supplying the different portions of the digestive tract. Ther are many pathological conditions which may produce sufficient pressure to cause a greater or lesser degree of pain either in the stomach or abdomen. The most frequent etilogical factor is indigestion leading to fermentation of food and the resulting formation of gases; which collect rapidly in large quantities, causing the most intense, but a somewhat intermittent pain. The more acute angles of the sigmoid flexure and of the places where the colon is flexed as the passing of the ascending and descending colon into the transverse portion and the extremely delicate character of these structures accounts, at least in a measure, for the pain produced. Injudicious feeding must be carefully guarded against as a prophylaxis. In comparison with the constant over-eating of almost every adult person, the infant suffers still more than they from the same cause. The little ones are fed too much because scarcely any mother knows the capacity of the stomach and some doctors do not seem to, when giving advice respecting the proper way to feed a baby.

It should be remembered that a stomach at birth has only 1½ ounces capacity. It doubles its capacity in 2 months and has increased in size in the same ratio by the end of the second year. Babies are fed too often in an effort to quiet them when they are only thirsty and should have water instead, and too much at a feeding, and foods for the digestion of which their stomachs and intestinal glands are not yet sufficiently developed.

The possibility of grave pathological causative wrongs should never be lost sight of in making a diagnosis. Most of the same causes that produce so many different types of colic in adults are possibilities in children too; such as, gallstones, appendicitis, penitonitis obstruction, from impacted fecal matter. Intussusception, involvulus, injury, renal calculi, bladder distension and various kinds of poisoning, including lead colic, the result of the effect of draughts of cold air reaching an exposed abdominal surface during sleep, or at other times, etc., etc. Taking the child face downward stomach resting on the hand or against your arm with gentle slaps across the shoulders and buttocks, will often help to expel the flatus and to relieve the atack. The baby anodyne tablets and syr. Rhei. Et. Pot. are valuable remedies. Dry hot cloths tend to relax and help materially. Prophylaxis is the most reasonable and the better plan especially to prevent recurrent attacks and thus save the patient much suffering as well as the mother and other members of the family. Never agree with the idea that this is a hereditary disease and must be expected and endured, rather than prevented, modified or cured.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
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Janesville, Wis.

DEAFNESS IN CHILDREN.

Macleod Yearsley made a critical analysis of statistics from personal examination of 1,076 school children. He wishes to reduce the number of children requiring special schools by showing where deafness may be prevented.

The Birmingham Medical Review abstracts his researches:

There were more cases of acquired deafness than congenital. Cases of sporadic congenital deafness occurred mostly in families of one to seven children, and were asociated with illegitimacy, insanity, chronic alcoholism, and the presence of mental defects in the families. In cases with a family history of congenital deafness there was deafness in one or both parents, bad parental history, congenital deafness in the direct line, and in collateral branches of the families. In 309 families 7.08 per cent. of cases of congenital deafness were the offspring of cousin marriages, and in contrast to this only 0.32 per cent. of acquired deafness were the offspring of cousin marriages in 592 families. Syphilis is reserved for further investigation as a cause of deaf birth, very little being known of its influence.

The largest percentage of cases of acquired deafness results from infectious diseases, especially infectious fevers, which produce more than a quarter of the cases. Measles is the most frequent cause, and scarlet fever the next. The statistics of other observers are higher for scarlet fever. Measles produced 11.48 per cent. The deafness was most commonly due to middle-ear suppuration and inner ear disease without previous suppuration. Scarlet fever produced 9.79 per cent., mostly from suppuration. Diphtheria produced 8.02 per cent.

Smallpox and typhus are absent from the statistics. Pneumonia produced 2.7 per cent., chiefly inner ear deafness. Tuberculosis produced only two cases; others probably die before the school age. Congenital syphilis produced 6.5 per cent. These cases require to be examined medically, as any cause but the real one is given. A lurid picture is presented by the ravages of this disease—a disgrace to a Christian country. Meningitis, including epidemic, cerebro-spinal and tuberculous, produced 10.9 per cent., all inner ear deafness. Primary ear disease produced 29.7 per cent., mainly middle ear deafness, but one case was obviously otosclerosis. Suppuration caused 14.8 per cent., and catarrh 15 per cent. Nasal causes, chiefly adenoids, produced 52.3 per cent. of suppuration cases, and 95.5 per cent. of catarrhal cases, more than half preventable Thus 74.2 per cent. of suppurative and catarrhal cases together, 21.9 per cent. of the total number examined were due to preventable causes. Many school children with lesser degrees of deafness are unnoticed, and become more deaf later.

For the prevention of deaf births, heredity, and consanguinity have to be considered, and then alcohol, insanity, and perhaps syphilis, and here the active co-operation of the doctor, eugenist, and legislator is required. The medical student should be taught eugenic principles, which raise the question of the sterilization of the unfit, the hygiene of motherhood, and State control of persons suffering from such racial poisons as alcohol, lead and syph-

ilis. For the prevention of acquired deafness more attention is required to the evils of dirt, drink, and superstition amongst the poor; preventive medicine to check the exanthemata; better care of the ears during an attack of fever, and early incision of the tympanic membrane or the mastoid operation. In congenital syphilis the timely use of pilocarpin and blistering and notification of the disease. Attention must be paid to the evils of adenoids and nasal diseases in infancy, the prevention of adenoids by education in hygiene, and the importance of infant consultative clinics to get at the child before school age. Otology should receive better recognition in the curriculum of the medical schools so that the cause of the aural disease may be recognized earlier and proper treatment applied.

TABETIC OPTIC ATROPHY.

The Birmingham Medical Review abstracts as below an article on this subject by Goebel.

The author first passes in review the various methods which have been advocated and employed to combat the progressive loss of sight in cases of tabetic atrophy. Of all these, only mercury and strychnine have ever effected the slightest improvement, and this has only been temporary. The inevitable course of the disease is deterioration of vision, which may be steady or marked by intermission, or even slight, but consistent, improvement. The author has, however, achieved a striking success by massaging the optic nerve by using a sucker like Biers' vacuum bells. A bell shaped like an eye cup is furnished with a rubber ball. This is placed over the eye, and the lids and globe are sucked in and out, the movemnts synchronising with the pulse rate. The case which had made no progress with ordinary treatment rapidly improved. The field of vision of the only useful eye, which was greatly contracted, enlarged to the normal limits; the sense of red, which had been lost, returned, and the other color fields approached the normal The improvement had been maintained up to four months from the inception of the massage.

The paper is only a preliminary communication, for naturally Goebel is anxious to repeat the treatment upon other patients.

ADENOIDS.

POTASSIUM IODIDE AND TINCTURE OF IODINE IN TREATMENT.

In cases of adenoids wher the formation is not large medicinal treatment often cures. After operation proper medicinal treatment prevents recurrence. The British Medical Journal publishes the following abstract on the subject.

After discussing the surgical treatment of adenoids on which most authorities reply, to the exclusion of all medicinal treatment, E. Roos (Tinska Laekaresaellskapet's Handlingar, February, 1912) gives a report of his son, aged 13 years, who at the age of seven years suffered from deafness and mouth breathing. An examination of the naso-pharynx revealed a quantity of soft and irregular vegetations filling his region. An operation was objected to, and in its place doses of potassium iodide, amounting to 0.25 gram, were given by the mouth twice a day. No toxic effects of the drug appeared, and in a few weeks there was marked improvement. After three months the vegetations had disappeared completely, and the patient's hearing was normal. No other treatment had been prescribed. During the next few years slight recurrences of the adenoids were successfully treated by a few weeks' course of potassium iodide on syphil-

itic granulations. Lapeyre has published, in 1902, an acount of adenoids successfully treated by the internal administration of tincture of iodine, which had not been prepared for more than eight days. Given in large doses (60 to 70 minims a day for children 3 to 7 years old), this drug alone effected the complete disappearance of adenoids in 26 out of 28 patients thus treated. The two failures were attributed to the dose of the iodine not having exceeded 20 minims a day. All the cases thus treated, apear to have been of a serious nature. Lucas-Championniere endorses this treatment, though he considers the dosage somewhat heroic. He also prefers potassium iodide, given in small doses over a considerable period—that is, two to three months—the dose for children of 10 years and over being 0.25 gram once a day and only 0.12 gram for children under this age. He records the case of a 12 year old girl who had suffered from adenoids for four years, and for whom an operation seemed inevitable, till treatment with potassium iodide banishd all trace of the adenoids. He admits, however, that this treatment is not invariably successful by itself, though it is a useful preparation for an operation, which is thereby facilitated.

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RADICAL TONSILLECTOMY.

That tonsillectomy is not as simple a procedure as some would have us believe is shown by the following which the Journal A. M. A. abstracts from The Laryngoscope. Radical tonsillectomy is a hospital operation which has dangers during operation and dangerous after effects:

Complete tonsillectomy, according to Stucky, should be advocated as a routine procedure. He claims that tonsillectomy should be regarded as a major operation and as such should be performed in a hospital with careful surgical technic. In many, probably in the majority of cases where tonsillectomy is performed there is more or less injury done to the pillars of the fauces. In removing the tonsils and capsule some shreds of muscular tissue are usually torn off and are adherent to the removed gland. Even should this not occur, the muscle is left uncoverel, hence unprotected, over the area to which the capsule of the tonsil was adhered. Tonsillectomy is not a simple operation nor is it free from danger, yet it is being performed more frequently by general practitioners and embryo specialists than any operation in surgery. Stucky has seen one case of facial paralysis lasting for five weeks. This patient was operated on by a well-known laryngologist, and there was a cellulitis following the operation. Two months after, the cicatricial tissue between the anterior and posterior pillars had the appearance of that so often seen following syphilitic ulceration. He has seen three cases in which a claim was made of marked impairment of the voice, especially of the high tones.

In two other cases the pillars of the soft palate were out of alignment due to cicatricial contraction, causing tension and interference with palatal movements making swallowing a discomfort. The anterior and posterior pillars were matted down by adhesions, causing the traction to be so great around the fossa of Rosenmueller as to cause a partial closure of the eustachian tube with subsequent tinnitus. In three other cases the uvula had been caught in the loop of the snare as it was being placed around the tonsil and was removed with the tonsil. In two other cases there was a loss of tonicity of the tensor palati and levator muscles, which resulted in the regurgitation of fluids through the nares, lasting for several weeks. This was evidently due to the great traction made with the tonsillar forceps which was necessary to pull the tonsil out so as to make a dissection.

MISCELLANEOUS

ON DISPENING.

By George L. Servoss, M. D., Gardnerville, Nevada.

With the attempt which is being made by certain persons, to make it practically impossible for the doctor to obtain many very important drugs, thereby practically forcing him to write prescriptions for most of his wants, a few remarks relative to the dispenser may be pertinent at this time.

A great many reasons have been advanced from time to time regarding the ability of the doctor to properly treat his patients through self dispensing. It has been said that the doctor is prone to employ the cheapest possible drugs and other agents; that he knows not sufficient of pharmacy to properly compound either mixtures or chemical compounds; in fact that he really knows little of those agents employed by him, excepting as to their action when applied in the face of some pathologic abnormality.

Taking up the first reason advanced, that of cheap drugs. We will admit that there undoubtedly are a few doctors who do use this class of supplies, but they are very few in number. As a rule cheap drugs spell inferiority, both as to quality and activity. The successful doctor is he who obtains results, and in order that such results may be forthcoming it is absolutely necessary that active agents be employed in combatting diseased conditions. Because of this the successful doctor, be he dispenser or a writer of prescriptions invariably insists that his patients be furnished with the best obtainable drug agents. As to the matter of cost, even the best quality of drugs are not as expensive as we would be made to think. Running through a catalog and price list we find that the highest priced fluid mixture sells for something like $7 per gallon, or a fraction over 5½ cents per ounce, which would make a four ounce prescription cost, with container, stopper and label, less than 30 cents. Pills and tablets at $5 per thousand, which is about the top price would be one-half cent each, making the ordinary amount parcelled out cost, with container and label, in the neighborhood of 15 or 20 cents. As a rule it is not necessary to employ agents costing as much as the above mentioned. In fact such prices usually go with some drug or mixture of drugs which are seldom employed, either by the dispenser or prescription writer. Thus it will be seen that, even though the best quality of drugs may be employed, their cost is not excessive.

The average doctor wants results of a prompt and reliable character. His patients demand them. Such being the case he cannot, under any circumstance, employ an agent which will prove inactive, either partially or wholly. This applies as well to the prescription writer as to the dispenser.

As salesman for pharmaceutical houses, some years ago, it was my business to call upon both doctors and druggists and I found that less than one per cent of the doctors employed other than the very best obtainable products. My house happened to sell a trifle cheaper than did some others, even though quality of goods compared favoraby, and I found some dispensers who would not buy from me because of this sighty cheaper price, they being fearful that the goods sold by me would not come up to a proper standard. On the other hand I found some druggists who were invariably looking for something cheap, especially in the way of staple compounds, as elixir lactated pepsin, essence of pepsin, alkaline antiseptic and a few other mixtures of this sort which are employed as substitutes for some of the proprietaries.

I do not say that all druggists were of this class, but they represented quite a considerable percentage of the trade in the territory covered by me. Thus it is seen that the doctor is not the only drug handler who might be accused of buying cheap goods. I am not saying that the mixtures sold were inferior in quality, but the fact remains that they were purchased with the idea, in many instances, of substituting them for the higher priced proprietaries. The accusation that the dispensing doctor employs cheap and inferior drugs originates from the druggist, as a rule, and it is made with the idea, in many cases, of forcing the doctor through his patient, to write prescriptions for all supplies required in the treatment of the sick.

The druggist has also said, through his national association, that the doctor is not well enough posted in pharmacy to properly compound mixtures of drugs. If such is the case, how then can he write prescriptions properly. As a rule it will be found that the dispensing doctor, who takes pride in both his practice and the drugs furnished his patients, possesses some work which will direct him in proper compounding of medicines. The druggist, as a rule, never relies upon his memory when compounding, but refers, as he should, to the pharmacopeia, formulary or dispensatory, for formulas and working methods of compounding. No matter if he be a graduate in pharmacy he does this in practically every instance. The facts of the case are, that neither the doctor nor druggist is obliged, at this time, to depend upon himself as a manufacturer of staples, as the manufacturing pharmacists furnish him, for less money than they would cost him, articles of superior quality and of an absolute standard. The facts of the matter are, that both doctor and druggist obtain their supplies from the same source, and that neither is obliged to manufacture a single thing necessary in the treatment of the sick.

Where possible, I believe that the doctor does better to prescribe his medicines, providing he knows that his patient will get just what is ordered. By so doing there is a double check, and should anything out of the ordinary occur a portion of the responsibility rests upon the shoulders of the druggist. However, where a doctor is located far from a drug store, or is obliged to meet and treat patients at great distances from his local base of supply, I believe that he can, and does, give the sick as good treatment, through dispensing, as does the prescription writer. The facts of the matter are evident, that were the doctor practicing in some of our western states obliged to wait for the prescription to be filled and returned to the patient, the latter, in numerous cases would require no medicine. He would be dead. It is very probable that bad results have followed in a number of instances in which the doctor relied wholly upon the druggist for his supplies and had nothing at hand to meet the indications encountered at once. Even the man who invariably writes prescriptions is at times called upon to act in emergency, and there are but few doctors who do not carry with them, at all times, a few of the more commonly employed emergency agents.

It is, as a rule, the prescription writer who knows but little of drugs, and how to compound them. He has no need of such knowledge, in so far as his practical work is concerned. On the other hand, the dispenser, through constant contact therewith, knows his agents, both physically and otherwise. He learns how to compound, as this is a portion of his daily work, and as he obtains as good results as does the prescription writer it is very probable that he does this portion of his work well.

It is not always the doctor who lacks in knowledge of drugs. Some little

time ago I wrote a prescription in which the impalpable powder of boric acid was ordered. The druggist, who had been in business for upwards of thirty years called me up over the phone and asked what sort of boric acid that was, and this despite the fact that every chemical list published mentions and prices the article. This same druggist did not know that, although chemicals were listed in pound or half pound packages that might be obtained in any amount from a fraction of an ounce to as much as might be desired. Instead of buying standard tinctures of drugs like aconite, opium and others of the class which should be standard, this man insisted that he could make just as good products extemporaneously as could the manufacturing pharmacists. He made them according to standard methods, but had no means of determining alkaloidal strength, either of crude drugs or finished products. The question arising is this; were his products, even though made after approved methods, reliable? I think not, and basing my ideas upon these facts, I insisted, while he was taking care of my prescriptions, that he obtain standard articles to be used therein. The dispensing doctor has not the time to manufacture goods of this sort and as he buys standard tinctures and other products, he undoubtedly gives his patients better drugs than would a druggist of the class mentioned.

I do not believe that the doctor should carry on a warfare with the druggist, but I do believe that the doctor should insist upon a square deal, and that he should be allowed, should he desire, to dispense his remedies without interference on the part of the drug trade. With the advent of the active principles the doctor is always aware that he has with him drugs of an absolute standard, and if the indications require more than one agent he may make compounds readily and without fear of dire results, due to incompatibility. While the active principles are not cheap, dose for dose they cost less than do the whole drug products, and consequently are economical for use. They give anticipated results and enable the doctor to meet indications promptly.

The doctor undoubtedly has an inherent right to dispense, if he sees fit to do so, and he should stand squarely upon his feet and fight for such a right. He should not allow of any legislation which will make it difficult for him to obtain his supplies from reliable sources, or which will rob him of this right, in any way, whatsoever. If he can write a prescription for certain remedies he can undoubtedly dispense them as readily and properly, and should be allowed to do so without interference from any source. Legislation to force the doctor to prescribe would not affect the city man, but it would surely work a hardship upon we of the country, especially of the West where our drives are long and where we may be miles away from the local source of supply and with every indication for quick application of remedies.

IODINE AND COMBINATIONS OF IODINE.

By John Albert Burnett, M. D., Hartshorne, Okla.

Rynaud's antimalarial mixture is as follows:

℞

Tinct. iodine ....6 Gm. (90 min.)
Potass. iodide ....6 Gm. (90 gr.)
Dist. water .....150 Gm. (5 oz.)

M. Sig. Dose one teaspoonful in water given in the beginning of a paroxysm and repeated in from 15 to 20 minutes later if no improvement has set in. This mixture is said to be of special value in those irregular fevers in which it is impossible to anticipate the

time of the attack. Iodized lime can be made as follows:

℞

Air-slackel lime (pure white) ℥ j
Iodine resublimed .....gr. 65

Mix thoroughly in a glass mortar with pestle, place in glass-stoppered bottle in about three days it becomes dark brown and ready to use.

Dr. Jacob Redding of Anderson, Ind. and others used the following with success in cases of goitre.

℞

Aqua amomnia .....℥ j
99 per cent solution of carbolic acid ..... min. viij

Mix and let stand a few minutes.

℞

Aqua pura.
98% alcohol aa .....℥ v
Iodine resublimed .....ʒ ss
Potassa iodide .....ʒ j

Mix and let stand a few minutes, then mix the two compounds thoroughly and let stand eight or ten days before using.

Sig. Apply twice or thrice daily to different affected part using cotton felt over which oiled silk should be used as a protective covering. Should there be a tendency to blister the skin or should great nervousness supervene suspend use of remedy for a few days then re-apply. When tumor has disappeared as also during intermission of treatment use a strong solution of tannin (tannin ʒ iv—aqua ℥ iij) as a wash to part for three or four weeks to condense and restore tissue to normal state. I will quote as follows from an article on "Glycerol of Iodine—An Old-New Remedy for Tuberculosis, Chronic Bronchitis, Chronic Pleurisy, Etc." by Dr. T. W. Williams of Milwaukee, Wis., which was published in Albright's Office Practitioner:

"My observation during a practice of forty years has convinced me that we have not in the entire range of materia medica a more valuable therapeutic agent in strenuous affections than iodine provided we can bring it in conjunction with the diseased tissues in an assimilable form. In fact there lies the whole secret of its curative power. * * *

"My own method of administration is to apply from 4 c. c. to 8 c. c. (1 to 2 drams) of the glycerol iodin over the chest in a streak along the sternum two or three inches wide from the junction of the clavicle to the lower end of the sternum (in chronic bronchitis) over the entire side from the spine of the sternum (in old chronic thickened pleuras) and to repeat the application night and morning until symptoms of iodism appear, usually two or three days, then to omit a day and resume with about the same dose once daily. It is not necessary to push it to complete iodism but stop as soon as buzzing and ringing in the ears and other nervous symptoms are complained of. In tuberculosis, with which my personal experience has been quite limited, I would make the applications over the seat of the dullness or localized tubercles. In goitre and enlarged glands to which this method of administration is far preferable to hypodermic administration I would apply it freely all over the gland. * * *

"I have obtained some really astonishing results especially in two cases—one a case of adenitis and of chronic pleurisy. Both patients had thickened membranes of twenty years standing. I have also had very promising results in two cases of chronic bronchitis, three cases of goitre, two cases of enlarged cervical ganglions and one very obstinate case in a negro of enlarged glands in the armpit.

"As to the effects of glycerol iodin upon the digestive organs especially in cases of catarrh of the stomach and fermentative dyspesia. I can vouch for their being most excellent, digestion and assimilation in all my patients show marked improvement, patients being able to eat with impunity foods

that they dared not touch before unless they supplemented the meal with artificial digestives. Some in the habit of using digestive tablets after each meal for years were able to dispense with them entirely. In fact, I may add digestion and general nutrition are invariably improved by glycerol iodin. I do not remember a single case in which this was not noticed.

"Mercury in some form seems to be the best syngerist of the iodin treatment especially in diseases of the liver and those in which syphilitic complications are suspected, I give .022 gram (1-3 gr.) mercury in the form of Moses Kidders 'pearls' every night at bed time for three days then omit three days to avoid cumulative effects of mercuric iodide. As an eliminent nothing is better than plain Epsom salts one-half to one tablespoonful taken in the mouth dry and washed down with a few swallows of water. Quinine does not seem to be synergistic. In fact malarial patients accustomed to using quinine would better discontinue it when using the iodin treatment. They do not seem to work well together. Many symptoms of iodism in fact are similar to quininism.

"I trust this good and simple old-fashioned remedy glycerol iodin will be tested experimentally by those looking for new remedies for tuberculosis. It is possible that like the king in the old story wandering the world over in search of hapiness which was to be found in his own breast—some are looking for a field for some magic serum that will kill the tubercle bacilli and heal the injured lung while the thing sought in the form of glycerol iodin stands right by on your medicine shelf.

"A few words as to my preparation of glycerol iodin and I am through. Any physician with a pint flask such as is used for making chlorin gas and a gas or alcohol stove can make his own glycerol iodin. Put an ounce of iodine in the flask and add twelve ounces of alcohol. Set the flask in a sand bath over your heater and connect its neck by means of a rubber tube with a glass tube running down into a wide-mouthed bottle. The latter must stand in water kept cold with ice or running water to condense the vapors as they come over. Use a gentle heat until the alcohol and as much of the iodine as it will carry over with it has been distilled over into the wide mouth bottle. All impurities in the iodine will thus beleft in the flask and you will have twelve ounces of alcoholic solution iodine which when you have added four ounces of glyecrin commercially pure will give you a pint of pure medicinal glycerol of iodin."

THE TREATMENT OF PULMONARY TUBERCULOSIS WITH ARTIFICIAL PNEUMOTHORAX.

By W. A. Gekler, M. D., Rockville, Ind.
Head physician Indiana State Tubercular Hospital, Rockville, Ind.

Over one hundred years ago Itard of Paris, first investigated the causes of pneumothorax. Some of the symptoms and signs of this condition had been known since the time of Hippocrates, but it remained for Itard to give the first clear description of a number of cases in which fluid and air together occurred in the thorax. Since that time this condition has been investigated more thoroughly, and it has been found that in the large majority, practically 85 per cent. of the cases, an existing tuberculosis is the cause of the spontaneous penumothorax.

Any one who has had occasion to observe a spontaneous pneumothorax from the very beginning, has noticed that while at first we have only air in the pleural cavity, it is only a matter of a few days until we find fluid in addition to the air. A dry pneumothorax where tuberculosis is the cause is rare, although in those cases of emphysema developing a pneumothorax it seems to

be the exception to the rule to find an exudate.

The occurrence of a spontaneous pneumothorax has long been looked on as a practically fatal complication of an existing tuberculosis. We know that consumptives die within a few hours or days after the occurrence of an acute pneumothorax, as a rule, suffocation being the cause of death. Within recent years, however, more observers have been reporting cases of spontanous tuberculosis pneumothorax, where the condition was recognized promptly and treated conservatively resulting in a cure. The sudden cessation of sputum and fever in these favorable cases, along with the improvement in the general condition and strength led to the advocacy of the artificial pneumothorax as a means of treatment of tuberculosis of the lungs. Carson, an English physician, was the first, so far as we know, to suggest this mode of treatment. Independently of him Spaeth, a eGrman physician, made the same suggestion in about 1870.

It remained for Forlanini, of Pavia, to first put this method into actual practice. He published his results at the International Tuberculosis Congress in Rome, 1894. Murphy, of Chicago, independently of Forlanini, reported his results in a number of cases in the American Medical Journal of 1898. Lemke, in 1899, published a preliminary report of fifty three cases treated by him in The Journal of the American Medical Association, and at about the same time Schell published his report in the New York Medical Journal. Since this time, the procedure has apparently fallen into disuse in this country, although in the last year or so several men over the country seem to be taking it up again.

In 1904, Braner, of Marburg, Germany, began his investigations of artificial pneumothorax, and to him more than anyone else we owe our exact knowledge of this subject. He with his experimental work and his investigations of those cases whch came to autopsy, worked out the details of this method and put what had been up to this time an empirical procedure on a rational basis. It is to him that we owe the modern lung collapse therapy of tuberculosis. While it is true that these methods are only applicable in a limited number of cases, yet, as he himself says, these cases in which we achieve success are a net gain in our treatment of a disease which is one of the most difficult problems with which we have to contend. Every life saved by the collpase treatment is one which would otherwise be lost, and this more than justifies us in making use of this treatment wherever it is indicated.

In producing an artificial pneumothorax we have two methods to choose from, that of Forlanini and that of Murphy. Forlanini simply introduces a needle connected with a gas container and a manometer into the chest, relying on the fluctuations of th manometer to indicate when he has the point of his needle between the two plura. The disadvantage of the simple puncture is that one cannot always tell with certainty that the point of the needle has not penetrated the lung. One must of necessity work in the dark so to speak, and this is not without risk to the patient. There has been a number of cases in which sudden death from air embolus has occurred as a result of gas being injected into one of the pulmonary veins. One must not forget that there is normally no pleural cavity. The visceral and costal pleura are in close apposition, with only a very thin layer of fluid between them as a lubricant. The exceeding thinness of the two layers of pleura is reason enough why a simple puncture as Forlanini uses can result in injury to the lung as well as sudden death. I had occasion while working in the city hospital of Frankfort, Germany, to ob-

serve a case which came to autopsy, and in which an attempt had been made to produce artificial pneumothorax by Forlanini's method. There was an encapsulated empyema about the size of a goose egg at the point where the puncture had been made, and this had undoubtdly been caused by the puncture of a tuberculous focus of no small size on the surface of the lung. When the needle penetrates the lung, and is at the same time fixed by the thoracic wall through which it has been thrust, every respiratory movement mus result in tearing of the lung tissue. We make similar experiences in puncturing the spleen. When the lung is consolidated at the point where the puncture is made, the veins are kept dilated by the consolidated tissue surrounding them, and they cannot be pushed aside by the needle as would possibly be the case in healthy lung tissue. These two facts make the occurrence of an air embolus easy. The advantage of this method of Forlanini's lies in its simplicity and ease, and it is undoubtedly much more agreeable to the patient.

Murphy's method conssts in laying bare the costal pleura at a point where one may be fairly certain not to strike adhesions, which is usually in the fifth or sixth interspace in the axillary region. An incision from one and one-half to two inches long is quite sufficient, and the operation can be carried out under local anesthesia. This method, while not at alll difficult for one who has even slight skill in surgery, entails the strictest asepsis and the same attention to details as a major operation It must not be forgotten that a large body cavity is being opened, and infection may have very serious consequences.

The patient as a rule receives a hypodermic injection of a quarter grain of morphin fifteen or twenty minutes before the operation. I use a one-half per cent. solution of novocain for anesthesia and thoroughly infiltrate the skin of the area where the incision is made. After incising the skin and superficial fascia, all bleeding vessels are clamped off so that the field of operation is as nearly absolutely dry as possible. The blunt dissection of the intercostal muscles is often painful, but is quickly accomplished. When the costal pleura has been laid bare one can see the mottled lung beneath gliding backward and forward with every respiratory movement. A very slight pressure with the blunt cannula causes a rupture of the costal pueura, and one can hear the air entering the pleura with a hissing sound. The cannula is then tightly packed about with damp sponges to kep any gas from escaping, and before attaching the rubber tube from the gas bottle I pass a thin ureter catheter through the cannula as a probe to give some indication as to whether the lung has retracted or not.

The gas apparatus consists of two three-liter bottles, graduated at every fifty and one hundred cc., connected at the bottom with two feet of rubber tube, one of the bottles being filled with nitrogen gas and one with a solution of bichlorid of mercury. The sublimate solution flowing into the other bottle displaces the gas and forces it out through the tubing and cannula into the pleural cavity. Between the cannula and the gas bottle I connect by means of a three-way cock a small mercury manometer, which gives me the pressure under which the gas flows into the thorax, and when the flow of gas is stopped the pressure I have in the pneumothorax.

At the first sitting I never inject more than five or six hundred c. c. of gas. In closing the wound care must be taken that the intercostal muscles are so tightly sutured so as to prevent the occurrence of subcutaneous emphysema, which while annoying, is not dangerous and usually subsides within

a week. Five or six small skin sutures are sufficient to close the wound which is then dressed in the ordinary manner with no drains. With good asepsis and first class suture material there is no danger of wound infection and subsequent empyema.

The object of this operation is simply to produce a small bubble of gas which can at later punctures be enlarged. I usually puncture the first time two or three days after the operation. The equipment is practically the same as at the first operation with the exception that the sharp needle is substituted for the blunt pointed cannula. It is hardly necessary to say that one does not puncture through the wound made at the first operation, but in one of the interspaces near it. Of course, I always make an x-ray examination to determine exactly the size and location of my pneumothorax before puncturing In this way I avoid striking possible adhesions with my needle, and also avoid injuring the lung by puncturing too deeply After the first puncture I puncture every week, until I notice by the amount of gas necessary at each injection that resorption is taking place more slowly, and then the intervals between punctures are lengthened until in several months patients go two or three weeks without further punctures being necessary. It is best to keep the pneumothorax at such a pressure that there are no respiratory movements of the collapsed lung, which is usually a pressure of +3 to +10 mm. of mercury on expiration, and from 0 to +1 or +2 mm. on inspiration. These pressures vary in the individual cases with the elasticity of the mediastinum and the degree of collapse obtained.

The production of an artificial pneumothorax cannot be said to be an operation requiring an extraordinary amount of skill, and the same can be said of the subsequent injections of gas. The difficulty with this mode of treatment lies in the selection of cases. On this one point alone one finds great diversity of opinion. From the accounts in the medical literature and from my own experience I have found that the more rigidly one adheres to Brauer's precepts the greater is the success attained. Operative interference should be reserved for those cases in which the usual sanatorium treatment does not bring success. Strictly incipient cases should, of course, not be treated surgically. A proportion of the moderately advanced cases will also respond readily to non-surgical treatment. We have, however, a number of advanced and far advanced cases in which the disease seems to show no inclination to heal in spite of anything one can do. Cavities of any appreciable size very seldom can be made to heal without surgical interference. In these cases, where the active disease is limited to one side, one is justified in attempting the pneumothorax treatment. Laryngeal tuberculosis is not always a contra-indication.

Where there are active lesions in both lungs, artificial pneumothorax on one side is very apt to cause the disease to progress more rapidly on the other. Tubrculosis of the bowels or peritoneum is an absolute contra-indication to operative interference with the disease of the lung. Tuberculosis of the kidneys and generalized tuberculosis are also contra-indications. Laryngeal tuberculosis with great destruction of laryngeal tissue makes artificial pneumothorax inadvisable.

Our diagnosis in these cases depends on the greatest possible accuracy in the physical and x-ray examinations. Very careful percussion will almost always give us approximately the extent of any consolidations. It is in ausculation that we encounter difficulties in the advanced and far advanced cases. With changes in the breath sounds, and rales transferred from one side to the other, and transmitted from one place on one side over the remainder of that

side, it is no wonder that the examiner is occasionally confused. Usually repeated examinations are necessary to arrive at a conclusion. The greatest difficulty lies in the diagnosis of pluritis adhesions. In some cases where there is a history of a previous plurisy, and where, there is very little, if any, opening up of the complementary space one is occasionally surprised to find at operation few or no adhesions. In other cases where careful physical and r-ray examinations do not reveal any evidences of pleuritic adhesions it may at operation be absolutely impossible to inject any gas between the pleura. Sometimes after exposing the costal plura the lung may be seen gliding back and forth beneath and yet small thread-like adhesions may exist in sufficient number to hinder a collapse of the lung.

The examination with the x-ray is fully as important as the physical examination. As a rule, I make one large plate of the entire chest and a smaller one of only the apices In addition to this, the examination with the fluorescent screen shows the movability of the diaphram, and has the advantages over the plates in that one can turn the patient in any position he wishes, and often get a more accurate idea of the exact location of largest consolidations and cavities. The plates show much greater detail and bring out things that cannot be detected with the screen. They are, of course, a permanent record, and can be examtned and studied with more thoroughness than a screen examination of a patient would allow. It would obviously be impossible to keep a patient before an x-ray tube for ten or fifteen minutes on acount of the danger of x-ray burns, and on account of the fact that no x-ray tube will stand more than one-half minute of operation at a time with any considerable current going through it. Both the screen and plate examinations are absolutely indispensable. We have no other means ol locating deep seated lesions, although, of course, one cannot determine by the x-ray examination whether or not these lesions are accurate.

A considerable amount of healed trouble on the supposedly well side, as indicated with the x-ray, would be a contra-indication to operative interference. It is essential that the operator have equal skill in x-ray as well as physical diagnosis because neither one is as serviceable as the two in conjunction. In nearly every case the results with one method will supplement and complete those obtained with the other. Here I wish to state that it is only by having frequent autopsies to check our diagnosis that we can obtain the necessary accuracy. The findings at the autopsy table will, more than any other one thing, teach us to be modest in our estimation of our own skill and correct habitual mistakes in diagnosis.

The result of the operation depends directly on the degree of collapse of the lung one can produce. Where numerous adhesions will not permit the larger part of the lung to collapse, there is little or no change in any of the patients' symptoms. Where an extensive collapse is produced, the patients usually notice a more or less marked diminuition in the cough immediately following the operation. Usually there is an increase in the amount of sputum the next day, to be followed from that time on by a marked decrease. One occasionally notices the same thing after the first few punctures. Sometimes there is also an increase in the fever immediately following the operation, due, no doubt, to the toxins forced out of the lesion by the compression More often one notices an imediate drop in the temperature, and, where one has secured a good collapse of the lung, the fever will disappear entirely within a few days Quite often where there is an increase in the fever, any healed

lesions that may be present will show signs of irritation, which disappear in the course of several days, just as in a constitutional tuberculin reaction

When the patients become free of fever and the cough and sputum are reduced there naturally results a marked change for the better in the general condition. The appetite improves and with it the strength. Patients do not always gain so rapidly in weight as one might expect, but they usually gain slowly and steadily. In several weeks they are usually able to be up and about without any noticeable bad effect on the condition of the lung or in the general condition. These patients do not notice any dyspnea on ordinary exertion as one might perhaps expect. Circulatory disturbances are also uncommon. There is no noticeable hypertrophy of the right heart Several of these operative cases have come to autopsy and were reported by Graetz. One is struck by the amount of connective tissue formation in the lung as compared with other tuberculous cases in whom there has been no operative interference. In tuberculous lesions, as in other lesions, healing means sufficient formation of scar tissue to replace the defect. In tuberculous cases treated by other methods, including various kinds of tuberculin and vaccines, I have never seen such marked connective tissue growth in affected lungs as in these operative cases. Nor does one, in ordinary cases, see these broad flat scars indicating healed cavities. Here again the autopsy table furnishes the final proof of the value of a method of treatment.

Why does the collapse of a tuberculous lung bring about such marked changes in the condition of a patient? We know that the flow of lymph from the lungs to the bronchial glands, and into the general circulation is, to an extent, controlled by the respiratory movements of the lung. Where the chest wall is elastic and the diaphram unhampered in its movements, there is possible the greatest amount of respiratory expansion and contraction of the lung, with a corresponding rapidity in the flow of lymph. In any normal lung, the flow of lymph from the parenchyma to the hilus is greatest in those parts where the respiratory movements are greatest. In the tuberculous lungs the toxins are borne from the lesion into the general circulation in the lymphatic fluid, and the more rapid the flow of lymph, the more toxins brought into the general circulation, and the more severe are the symptoms of this intoxication

In the ordinary sanatorium treatment of tuberculosis we try to reduce to a minimum this absorption of toxins, by putting the patient at as nearly absolute rest as possible, thus reducing the amount of movement of the lungs. In inducing collapse of the lung we go farther still, in that we almost entirely stop the lymphatic flow by preventing any respiratory movements There results in the collapsed lung, not a hyperemia and stasis, as one might at first expect, but an anemia, and with it, of course, a diminution in the amount of the lymphatic fluid in the collapsed organ In other words, we prevent the toxins from getting into the general circulation, and causing the toxic symptoms which are common to this disease This explains the cessation of fever, improvement in the appetite and disappearance of such other symptoms as may be caused by this intoxication, as for instance, disturbances in digestion.

As remarked before, it is very difficult, with any of the means we now have at our command, to bring about healing of a cavity that has attained any considerable size. By compressing the lung we can often bring the walls of the cavity in apposition, and thus bring about complete and permanent healing. This explains the great decrease in the amount of sputum and, of

course, with it the cough in these cases. Not only that, but we prevent mechanically those movements of the tissue which hinder formation of scar tissue. Just as we often put tuberculosis joints in plaster casts to prevent movement and permit a scar to be formed, so do we put the lung in a cast of gas with the same end in view.

The question at once arises as to whether these cases really stay cured, or as to whether the disease will continue to make progress, when the lung is allowed to expand again I can only relate what I myself have seen, and say that in those cases where a satisfactory collapse was obtained, the permanent results, even in advanced and far advanced cases, are often as good as those we obtain with incipient cases treated by nonsurgical methods, in other words, clinical cure. I have known women patients to get married, after having gotten well from tuberculosis with pneumothorax treatment and even go safely through the ordeal of child-birth, which it seems to me is as good a test as any we have. During my year and a half as Brauer's assistant I had opportunity to see and examine practically all of his cases who reported for re-examination and observation, and most of them were engaged in their usual avocations, only observing such precautions as any intelligent person would observe, who was familiar from personal experience with a disease as treacherous as tuberculosis. One of these cured cases was an orderly in Brauer's clinic, and did quite heavy manual labor, as was exacted of other orderlies who had never been sick. It seems to me that these results speak for themselves.

As a rule we find adhesions sufficient to prevent satisfactory collapse of the lungs in about 25 per cent of the cases on whom we attempt to operate These patients, realizing the hopelessness of their condition, often ask us to do something for them, even to the extent of submitting them to a dangerous operation. In these cases we can often induce satisfactory collapse of the lung by some form of thoracoplastic operation. The thoracoplastic operations for producing collapse of the lung in cases of tuberculosis were first advocated by Brauer, although a number of surgeons had made attempts to treat cavities and tuberculous abscesses of the lung surgically long before his time. This is not the place to go into details concerning this work, but I just wish to state that I have seen cases in which sufficiently satisfactory collapse was produced by such an operation to result in healing of the diseased lung.

Among the patients at the Indiana State Hospital for Tuberculosis I have made eleven attempts to induce artificial pneumothorax. In two cases it was absolutely impossible to get any gas into the chest on account of very extensive adhesions. In another case it was possible to get a small amount of gas into the pleural space, but on attempting to enlarge this small pneumothorax, which was on the left side, there resulted circulatory disturbances, which made it impossible to continue this form of treatment. None of these patients were permanently injured by these attehpts In five other cases a partial collapse was secured, sufficient to result in more or less benefit to the patients, as evidenced in decrease of fever, cough and sputum, and betterment of the general condition I doubt, however, as to whether it will be possible to bring about healing in all of these five cases. The symptomatic improvement has, so the patients feel, more than repaid them for having submitted to the operation. In three cases I have been able to get a degree of collapse, which, I believe by the progress we have made up until this time, will result in clinical cures. In only one of these eleven cases were there no adhesions whatever, and a perfect collapse was possible In Brauer's cases there

were about 40 per cent. successes, a result which is all the more wonderful when one considers that, he up until a year or so ago, would only consent to operate on the absolutely hopeless cases He now takes the stand that it is often wise to operate on patients who are not so advanced as those whom he has reported, and he believes that a still better record can be achieved.

We have, then, another weapon to use in our fight against tuberculosis, and while its use must of necessity be limited, it, nevertheless, can be employed in saving lives that are now hopelessly lost. The collapse therapy, whether it be by means of artificial pneumothorax, and supported by clinical and experimental evidence. It has won recognition both in this country and abroad, and can no longer be ignored. The results of this work and the principles underlying it also go to prove that there is an entirely mechanical factor in the growth of a tuberculous process, and that this factor as well as the theories of immunity, must be considered in attempting to explain consumption of the lungs.

The patient I wish to present to you is 18 years old and was employed in a factory up until the time he became sick Both parents are alive and well, and there is no tuberculosis in any of his immediate family No source of infection can be traced He has never been seriously sick until this present illness. He became sick in October, 1911, with chills, fever, cough, sputum and pains in the chest. He immediately began losing weight and strength, and went down hill rapidly. He was admitted to our hospital on December 11, 1911. Up until the time of admission he had lost fifteen pounds in weight. On examination I found rather dense consolidation, extending to the third rib on the right side in front, and to the fifth dorsal vertebra behind, with numerous dry and moist rales for some distance below the consolidation. There were some pleuritic friction sounds at the right base. The left side was entirely free from top to bottom Sputum examinations showed numerous tubercle bacilli with the usual secondary organisms. The urine was normal. From the very beginning his afternoon temperatures ranged from 38 to 39 degrees C. (100° F. to 102° F.). He was given old tuberculin in minute doses, but with no effect on the temperature one way or the other. He steadily lost weight and strength, became pale and anemic looking, and one could readily see that the outlook was very bad in spite of all that one could do. The lung lesion showed signs of breaking down, the rales became more moist, and the breath sounds over the apex indicated cavity formation. The X-ray examination substantiated our physical diagnosis. On being told about the pneumothorax operation the patient imediately requested that it be done for him, because he realized that it was his only chance for recovery. The operation was performed on the eleventh day of May, and presented nothing out of the ordinary. There was an immediate drop of a degree in his temperature, and his sputum was diminished to onehalf. Since the operation his temperature, which ranged every evening from 38 to 39 C. (100 to 102 F.), has only twice exceeded 38 C. (100 F.). Since the middle of August the temperature has been normal, and the pulse-rate, while at first somewhat above normal, is practically always below 100 now. He has gained in weight, and recovered strength practically up to his normal condition before he became sick. His sputum has been reduced from 500 c.c. a day, and will very likely cease entirely soon. It still contains a few tubercle bacilli. The X-ray examination immediately following the operation showed an adhesion at the apex, and a smaller one between the base of the lung and the middle of the diaphram. The adhesion at the base

tore loose after the second or third puncture. I intend to keep the lung collapsed for six months after all sputum has ceased, and then allow the gas to become slowly absorbed. Should the patient develop sputum again, the injections will be continued for several months longer, when another attempt will be made to allow resorption to take place.

NYSTAGMUS.

Nystagmus is always of interest. Dr. R. Beaton Hird, F. R. C. S. E. reports an interesting case in the Birmingham Medical Review and discusses the subject as follows:

Summary of Case. Here, then, was a woman suffering from severe vomiting in early pregnancy, otherwise healthy. and with signs of no nervous affection. She got a small preretinal haemorrhage in one eye which did not even involve the fixation spot, and which became entirely absorbed in due time. Four days later she developed a violent nystagmus, in appearance very similar to that met with in miners. She regained good health, and the nystagmus gradually diminished until she was nearly free from it. Her general condition had undoubtedly become neurotic. She had in addition her white fields generally contracted and inverted colour fields. Her eyes, except for a little pallor of the right disc, were normal. What is the explanation?

Cause of Nystagmus. Nystagmus may vary considerably in variety. There is a rythmitic oscillation or movement of the eyeball horizontally, vertically, or rotatory. It may be more marked in certain positions, and is usually bilateral.

In my case the nystagmus was rythmic, and occurred simultaneously on the two sides. The rate and variety of the movements of the two eyes were synchronous and alike. The oscillations occurred at the primary position, and were aggravated by concentrating the gaze on a near object. The type was mixed, sometimes the movements being horizontal and at others vertical, with now and then a rotatory action as well. The movements did not occur to and from a fixed point, but around a fixed point—that is to say, the movements were of the pendulum variety. Buys and Coppez, by taking graphic records of nystagmus, have divided cases into (a) pendulatory nystagmus especially characteristic of optical causes, to which group they add miner's nystagmus, and voluntary: (b) nystagmus a resort, which is characteristic of affections of the vestibule and the cerebellum. Both varieties may occur in affections of the central nervous system. The pendulatory form is sometimes found in tabes. One of the essential symptoms of Friedrich's hereditary ataxy is nystagmus a resort. This type, too, is noted in all processes the effect of which is to reduce the capacity of the posterior cerebral fossa. In insular sclerosis both forms may be met with. From these observations it would appear to be important to settle which type of nystagmus is present in any case. I had no means of taking a nystakmograph in my case, but from close observation I have no hesitation in classing my case as pendulatory.

A. Grafe defined nystagmus as follows: "Nystagmus represents a trembling of the eyes, produced as a clonic spasm in a determined direction, giving rise to pendulum-like movements, independent of the action of the will, but not influencing the voluntary movements."

The pendulatory variety has always seemed to be somewhat analogous to ankle clonus, for there is a rapid alternating contraction and relaxation of the ocular muscles.

Sir William Gowers referred to Wilbrand's explanation which was want of

harmony btween the volitional impulse and the state of the common reflex centre for the eyeballs, owing to a disorder of either, that of the centre being due to a change in the influences that act upon it. As Sir William Gowers said, this does not throw much light on the precise origin of the symptom. In his opinion, all form must have the same origin. He then referred to Sherrington's work on the "Reciprocal Action of Antagonistic Muscles." Sir William Gowers considered the resemblance of this to nystagmus so close to strongly to suggest that their mechanism is the same. He held that there must be structures near the nuclei of the ocular muscles, which constitute a centre subserving binocular combination and reflex action, the lesions especially causing nystagmus being in the mid-brain, pons, and cerebellum. In his own words, "the explanation of nystagmus, as a reciprocal muscle-reflex action, due to disturbance of balance of the mid-brain structures wihch subserve this action, will no doubt present difficulties, but these will probably lessen when they are fairly considered."

In order to locate the lesions causing nystagmus we must understand the anatomical and physiological relations of the symmetrical ocular movements. Unfortunately, this is by no means thoroughly understood, but the facts I would mention are, I believe, fairly established.

We know, for instance, that the oculomotor nerves arise from nuclei in the pons situated closely together and bilateral in arrangement. These nuclei are connected with one another, and there is a certain amount of decussation of nerve fibres which is obviously necessary for conjugate movements. These nuclei and their nerves constitute the lower neurotic system. What do we know of the nuclear connections with the rest of the nervous system? The third nerve nuclei are certainly in relation to the optic nerve for the pupil reactions, the connection being via the superior corpora quadrigemina. The cortical centre for movement of head and eyes is situated at the posterior ends of the middle and inferior frontal convolutions, and from this area motor fibres must pass downwards to the oculo-motor nuclei. The fact that a definite number of cases of voluntary nystagmus has been recorded goes to show that there must be definite cerebral connection in some way between the cortex and the oculo-motor nuclei. Possibly in these cases there is inhibition of some centre for control of binocular movements.

The oculo-motor nuclei are certainly connected with the cerebellum, as is the rest of the motor system. So far as localisation in the cerebellum has progressed, the dentate nucleus is supposed to preside over the conjugate movements of the eyes. From the cerebellum there is a tract called the cerebello-vestibular tract to Deiter's nucleus in the lower part of the pons. This tract, which leaves via the inferior cerebellar peduncle, consists of afferent and efferent fibres. Deiter's nucleus receives in addition a large number of fibres from the vestibular nerve, of which, indeed, it is one of the chief nuclei. In this way it is connected with the inner ear. Deiter's nucleus is connected with the oculomotor nuclei by means of the posterior longitudinal bundle.

The optic thalamus, with which the optic nerve is partly connected, is brought into communication with the cerebellum by means of the thalmo-cerebellar tract via the superior peduncle.

Another connection of the cerebellum must be mentioned, viz., the cerebellorubral tract to the red nucleus.

There is probably, perhaps I should say certainly, some part of the central nervous system which presides over fixation, an important factor in maintaining the co-ordinate movements of the eyes. Indeed, the existence of such a centre has been suggested by Sir William Gowers, whom I have quoted above.

Now, nystagmus must be the clinical manifestation of a pathological lesion of

some part of the intricate nervous mechanism which I have tried to put before you, and it is to the detection of the particulr part involved that we ought to direct our attention when investigating a case of nystagmus. Having found the site of the lesion, we must try to determine the character of it.

Can we classify our cases of nystagmus on an anatomical basis? I think we can fairly well. Lesions involving the mechanism of binocular fixation certainly form one group. To this belong the cases of optical nystagmus due to opacities of the media, as corneal scars and congenital cataracts; high refractive errors, especially myopia; and fundus disease, as albinismus and retinitis pigmentosa, and possibly other conditions. In all these cases there is interference with the function of fixation, the stimulus to the fixation centre being in some way insufficient. Graefe expressed the opinion that some cases of congenital nystagmus might be due to haemorhages at the yellow spot. In my case there was no optical defect except a pre-retinal haemorrhage which did not involve the yellow spot properly, and which I cannot believe played ny part in the causation of the nystagmus. I have mentioned above that this form of nystagmus, due to some optical defect, is usually of the pendulum variety.

The lesions giving rise to nystagmus in my case must have been a supra-nuclear one.

Of recent years much attention has been paid to the nystagmus due to aural reflex, or so-caled labyrinthine nystagmus. I have mentioned above that the ear (vestibule and semi-circular canals) is connected with Deiter's nucleus by the vestibular nerve, and that the oculomotor nerves are connected with Deiter's nucleus also by the posterior longitudinal bundle. This, then, is the probable reflex arc. This reflex nystagmus has been worked out especially by the Viennese otological school. It may be induced by the following methods:

(1) Mechanical. This has been shown by Sebileau and Lemaitre, who have recorded a case of nystagmus due to wax pressure.

(2) Rotatory—the person being rotated in a chair.

(3) Thermal, by action of hot and cold water flowing into the ear.

(These latter two methods are employed by Barany in his tests.)

(4) Galvanic stimulation.

In all these cases the endolymph of the inner ear is disturbed and the vestibular nerve stimulated.

In this form of nystagmus we have to deal with the variety called nystagmus a resort. In this we have a rapid movement from the starting point, with a slow recovery movement. These have been called nystagmoid movements, or pseudo-nystagmus, by some authors.

My case did not conform to this particular variety, and, as I have related above, the tests for labyrinthine disease were negative. We may conclude, then, that this reflex arc was not the site of a lesion.

Nystagmus may be due to lesions of the cerebellum and its connections. Here again the variety should be nystagmus a resort. There was no evidence in my case of any cerebellar disease whatever.

Other sites are possible, such as the cerebrum and basal nuclei—optic thalamus and corpora quadrigemina. The lsion, as I hav said above, must have a supra-nuclear one. It must have involved a portion of the central nervous system very circumscribed in area not to have given rise to any other symptoms.

When we come to the question of the kind of lesion we have to deal with we can only speculate. A sudden lesion of the central nervous system always sugests some vascular origin. The onset of the nystagmus was certainly sudden.

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IDEALS.

They are absolutely essential to a successful and well ordered human life. Without them nothing of importance has ever been accomplished. The higher and better they are the more valuable becomes any life to the world, which struggles, with God's help, to attain them, and to come as near doing so as human frailty, physical, mental and spiritual permits. There is only one correct ultimate "Ideal," viz:—that of being of the greatest possible service to one's fellow men and thus fulfilling our Creator's purpose in placing us here on the earth, to develop all of the forces and possibilities with which he has endowed us and contribute all that we can to the "common good," this is only the statement of a fact, the truth of which all of us recognize fully, when we act in complete harmony with this plan of living and serving. No profession affords any better opportunity for a successful compliance with this fundamental law of living, than does this one of our's. All true, conscientious physicians are conscious that the truth of this self-evident axiom is proven daily, by their own experiences. The selfish individual whose commercial instincts have been strongly developed and who seeks to exploit them successfully in practicing medicine and surgery is generally doomed to a considerable degree of, or utter disappointment. A few exceptionally endowed with the ability to do this, are seen in every generation, but instances of this kind are so seldom seen that they give but little encouragement to those who would imitate them. That so much of our reward must be accepted in the gratitude of those whom we may have been able to help to recover their health or to bear their sufferings more comfortably is certain and one who is not willing to contribute to the general welfare in this way will be sure to regret having prepared for the work of this profession.

To compensate for this contribution of our knowledge and strength is the knowledge that all true people are doing the same in some other avocation and that we are constantly profiting by their help afforded us either voluntarily and gladly, o rinvoluntarily and indirectly as the case may be. To be prepared to confidently try to do all that human skill and knowledge has prepared us to do, for the aid of suffering humanity requires that we have high "Ideals" in the study of our profesion and in acquiring correct methods for practicing it to the best advantage and to afford the greatest possibility of success.

—J. V. S.

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WHY WE GROW OLD

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This subject has been of absorbing interest since the time when man was developed enough to speculate on the future. The quest for light has been world-wide, and has searched all lands for the philosopher's stone or the fountain of youth.

The conviction has been strong upon the people that somewhere or somehow the remedy for the approach of age would be found in some form of matter extraneous to our own bodies. The world-wide search for climates, faith cures, wonderful springs, mud-baths, etc., that have attracted our suffering population to all the four corners of the earth, is only a magnificent spectacle of the human will to live.

Within the last few years, however, physiological chemistry has really begun to make much progress upon the question, and is slowly but surely pointing its finger at us. We know enough about the matter at present to say surely that premature death and disease generally has its origin within our own bodies. We are just beginning to realize that disease and premature death are simply physiological debts we must pay for errors of the laws of nature we acquired in the years that have passed.

It seems clearly established that nature obeys a law of compensation severe as the Mosaic law of "an eye for an eye and a tooth for a tooth," only nature is more subtle, but none the less exacting in her demands for compensation; she is willing to lose a tooth and take a stomach or lose a stomach and take a whole set of teeth.

The human race has always had an abiding faith in their ability to cheat nature from just compensation. As individuals they point proudly to their magnificent development and boast loudly of their ability to abuse physiological laws, not knowing that even at the very time they are loudest in their assertions, the law of compensation has a heavy score against the very vain person, and that the process of deterioration has already begun that will undermine their magnificent health and lay the foundation for chronic invalidism or death. The process of growing old is not a sudden development, at a certain period of life, but a succession of impressions, good, bad or indifferent, that have influenced the life's history of the individua..

ADAPTABILITY.

A study of the Genus Homo shows us that nature is fundamentally very kind, that she shows great flexibility in modifying her laws to suit the varying requirements of man's environments. She is even willing to alter the relative functions of the body within wide limits in order that man may live comfortably in any environment he may choose.

She is not willing, however, to make

many of these changes and makes them grudgingly, if they are required very often, and sooner or later makes them so badly that a condition of defective metabolism is brought about, thus rapidly laying the foundation of disease in the human body.

LIFE'S CAPITAL.

The great majority of human beings have a fair start in human life. Organically they are sound, and if no untoward event comes into their lives and they live well within the bounds of abstinence, they must live to a ripe old age. Unfortunately many children suffer from well-meant ignorance, supplanted by commercial exploitation. The first two years of their life, if not fortified by their mother's food supply, they are dependent upon some manufactured food as their source of sustenance, and therein began their second hazard in life.

STERILIZATION OF FOOD.

The knowledge of the pernicious influence of germ life on health has led many well-meaning, but inexperienced, so-called experts to recommend tne use of sterilided foods only for the child, hoping thereby to protect the young from contact with any microbic poison, until they had developed more resistance to germ infection, and during 1894 this style of feeding amounted to a fad with progressive physicians, who were under the impression that they had solved the problem of safety from infantile disease. Experience taught them, however, that while they had succeeded in a measure in protecting the child, yet something seemed wrong. The child had more or less indigestion, necessitating many changes in food, anemia and sores broke out upon their little bodies, and their condition assumed a serious phase; much discussion followed; eventually the fundamental truth was discovered that the child must have a certain amount of raw food or living cells for a satisfactory condition of health. When this truth was determined the numerous cases of senrvy began to disappear rapidly and the children improved.

DANGEROUS ENVIRONMENT OF CONTAGIOUS DISEASES.

Generally speaking, the more children you have in a family, the greater danger each runs of acquiring some contagious disease, as each child multiplies the chance of active contact with active contagion by the factor of their number.

THE KISSING HABIT.

In those families where it is customary to allow each member as well as friends to kiss the small children, the hazard from contagious disease is raised, and the child can scarcely escape some of our numerous forms of contagious disease. The habit some mothers have of wiping the children's noses upon her apron, or by means of a common handkerchief, helps to spread a disease from a carrier who has it in a latent form to a child who is susceptible.

DISEASE CARRIERS.

The source of contagious disease has caused much study in order to locate their sources, and thereby prevent their spread. Investigation showed a great many adults and children who were disease carriers, having the specific germs which cause those diseases either in their mouth and throat, or in some of the natural secretions. These people, using the same utensils as others, transfer the contagion with their secretions, and the implement becomes a source of disease or death to others of their kind who are unfortunate enough to introduce them into their mouths.

INTERMEDIATE CARRIERS.

Investigations in late years have shown that our friendly fly is an active carrier of contagion. This filthy nuisance is sure to get into any exposed filth, and by means of its peculiar feet carries the material to our food supply,

where, a few germs being deposited in suitable soil, and in the proper environment, rapid growth takes place.

It is probable that all insects are active carriers of disease, and in time they will be classified, and their peculiar method of offending worked out.

IMMUNITY TO DISEASE.

Many individuals enjoy a certain amount of freedom from disease and escape altogether or are only slightly ill if they are inoculated with some contagious disease. Some are immune to nearly all forms of contagious disease, while others are immune to one or more types, with a marked susceptibility to others.

Many attempts have been made to ascertain in just what way the body protects itself from the invasion of contagious disease, and with more or less success. We have learned that some change is brought about in the blood and the cells that render them very susceptible to a certain disease, so that an accidental inoculation will immediately stimulate the defensive organization of the body to a tremendous effort to kill out the common enemy.

Others on the contrary, do not respond to the invasions of the germs themselves, but delay until the germs begin to produce toxins; immediately a desperate effort is made to protect the body from the invasion and usually without success, as the patient must undergo an attack of the disease to acquire immunity.

ARTIFICIAL IMMUNITY.

Many methods have been used to increase the immunity of the body by artificial means, and successfully in smallpox by vaccinating the individual with an analogous disease of the bovine family, called cow pox. There are many things in common between the two diseases and nothing is more certain than complete freedom from smallpox to the individual who has been successfully inoculated with cow pox.

The normal individual who has had an attack of some contagious disease is generally (but not always) rendered immune to any further troubles from the same source, but their ability to resist other diseases is not increased by having immunity to one or more, as many contagious diseases give only a specific immunity to the individual.

ANTITOXINS.

The use of these agents in the treatment of contagious disease is increasing rapidly. Their function is a broad one of neutralizing the toxins of a certain contagious disease before they have been able to cause damage to the body, and thereby do it irreparable harm. They have been a blessing to our people, and have prevented many children from becoming the victims of disease that cause fundamental changes is metabolism. These serums must be used in very large doses in order to neutralize any possible amount of toxin that may be formed. Few children would die or become crippled through diphtheria, if this life-saving measure was used early. Any sore throat, no matter how mild, is possibly diphtheritic in character; and if people would only get over the pernicious habit of being doctors in their own families, it would be possible for an enlightened medical profession to reduce the cases of diphtheria to the same percentage as smallpox. This will never come about until a culture is taken in every sore throat to determine its character, something not likely to happen as long as we have our unjust and oppressive quarantine laws.

(To be Continued.)

DEPT. OF SURGERY

By Hugh N. MacKechnie, A. B., M.D. C. M., 7 W. Madison St., Chicago

EXOPHTHALMIC GOITER.

After long years of neglect while other parts of the body were being carefully studied the ductless glands are receiving a consideration commensurate with their importance. It is now recognized that the thyroid, thymus, parathyroids, pituitary, adrenals, pancreas, liver and spleen and other internal secreting glands have an important bearing on body metabolism. A careful consideration of their functions is being given them today by the clinician, pathologist and the physiologist and from the joint efforts of these three branches we should learn much that will change our attitude towards medicine. A proper appreciation of these discoveries will teach us not to put all our faith in drugs. It will teach us that the layman is not far wrong when he tells us that we know but little about the human body and that a great deal of the results we get are the results of an empiricism and not of scientific knowledge. Assuming that he is correct it is our duty to strive after the knowledge that will make his assertion incorrect and use the means at our disposal to take our science out of the realm of empiricism into that of certainty. So rapid has been the advance along this line in the treatment of exophthalmic goiter that the operative mortality in a few years has been lowered from above 25% to 1-2%.

Of the etiology of exophthalmic goiter we know but little that is new. It begins in the healthful as well as those of lowered vitality. Previous illness appears to have no predisposing effect unless it be to undermine the nervous system which controls the secretion of the gland. Country or locality appears to have no bearing for we find the disease in all countries and in almost every locality. Certain districts appear to have a larger number than others but no cause can be found for the same. Drinking water with certain salts in excess has been credited with causative action. On the other hand, people from these same localities go away and develop goiter which, when they return, disappears while they drink this water. This is explained in this way. For certain people the water makes a demand on the gland for its secretion and when this demand is withdrawn the secretion is retained or not conteracted by the water and goiter develops. A heavy meat diet has been credited with a causative action but this is very doubtful. Sudden fright is a potent factor. Heredity has apparentenly a bearing but whether through sympathetic nerve or glandular disturbance is not determined. It may occur at any age. It has been found as early as four years and has developed as late as sixty. The preponderance of cases occurs in young adult life. Puberty and menopause are not so important in this as in other types of thyroid disturbance. Females are rather more frequently affected than males.

The pathology is at present receiving much consideration with a tendency to a more comprehensive and minute classification. Clinically this may not be of such great importance except in a few cases but those few require of us that more thorough knowledge. A clinical diagnosis of exophthalmic goiter indicates a certain line of treatment but when we find cases with the clinical symptoms of exophthalmic goiter without the secretion that causes them and without the post-operative improvement that ordinarily comes we should feel ourseves forced to a more definite clinical classification. Such classification should specify the pre-

dominant type of tissue anl its arrangement with the type of secretion or degeneration, e. g., if the cells are of foetal type or not, if the acini are filled with colloil or other material; what degeneration, if any, has taken place and what is going on; what arrangement there is of the cells, whether adematous or simple hyperpasia. These points are of importance as indicating the real significance of the condition and the real secreting ability of the gland.

The thyroid gland develops from the middle anlage at the posterior end of the tongue. It is found in embryos at a very early stage and in the development drops from its original position to that of adult life in front of and to the side of the upper tracheal rings and the thyroid cartilage. In the change of position it leaves behind a duct—the thyroglossal duct which would appear to carry the secretion of the gland externally in foetal life. This duct closes however and leaves a small depression at the base of the tongue—the foramen coecum. In its passage down small fragments of gland tissue are sometimes left along the track and develop to a greater or lesser extent. Again we may find that a portion of the gland has been taken beyond normal point and locates with the thymus behind the sternum.

The thyroid is found as an external secreting gland in some invertebrates and was undoubtedly such in man at one time.

For diagnosis we are prone to look for our four cardinal symptoms, viz., enarged thyroid; exophthalmos; rapid pulse with dilated weak heart; and tremors. Add to these: nervousness, pressure symptoms, loss of strength and muscle tone with loss of amibtion, epidermal and adnexial changes and we have our symptoms complete. Our diagnosis must be from other types of enlargement in the gland as simple struma, adenoma and carcinoma.

If we were to delay a diagnosis sufficiently long for all symptoms to develop we would have but little difficulty but in that case we discount our prognosis and do not give our patents the best possible service. It is our duty to make an early diagnosis before hyperthyroidism is marked and before the dengerous period for surgical interference has arived. The cases that come with a rapid heart, with shortness of breath, with a little dyspnoea or with nervousness should all be looked into carefully. If with rest, with proper food and surroundings and careful medication for symptoms, they do not show improvement we may suspect a goitre and should look very carefully for the same.

The treatment of exophthalmic goiter is essentially surgical but there is a large medical period which is frequently ignored. When we remember that the mortality has, under surgical treatment, decreased from 25% to 2% we cannot gainsay its value. But we must remember that such a low rate of mortality can only be attained by carefully selecting cases. It must be remembered that there are times to operate and that the presence of the symptoms of goiter must not be the only indications for or against surgical intervention.

The course of the disease might be divided into three periods which vary markedly in relation to each other in different cases. The first period is that preceding the onset of cardiac dilatation, the second that during cardiac dilatation and the third the period from the time compensation has taken place till a succeeding attack of dilatation has set in or death has intervened. The case which is diagnosel as exophthalmic goiter before the heart is dilated even if it is running rapidly, should be urged to go to the operating table early,

with the assurance that the condition can be checked. If on the other hand the patient has delayed till there is an acute exacerbation of symptoms with a pulse of 140 or more and with the heart dilating, surgery should not be considerd or if it has to be, then only to the slightest necesary degree to check the absorption of the secretion.

In the third period when compensation has taken place, when the pulse although rapid is fairly good, surgery may be again considered. It is necessary in all stages to use the greatest amount of tact with these cases. Gain the patient's confidence and create the least amount of disturbance. It is always wise to keep the patient in the hospital for a number of days to get accustomed to surroundings. During this period, rest, quiet, sedatives, chiefly morphine, a light diet and a good nurse are of much benefit. The patient becomes used to the odors and the beginning of the anesthetic does not so readily alarm. On the morning of the operation following the administration of morph. sulp. gr. 1-100 the anesthetic is quietly started by the nurse and taken up by the interne. In this way the patient is frequently put to sleep without the excitement attendant on the ordinary anesthetic. Many of these cases can be operated on under local anesthesia and good results are report-d but one must always be prepared to deal with a patient who is readily disturbed by the operating room scenes.

Few if any of these cases are improved by the administration of thyroid substance. It being an intoxication a further administration of the poison only increases the condition. Digitalis strophanthus or strychnine have no appreciable effect in slowing the heart. Morphine and other sedatives assist in controlling and decreasing the nervous tension. The operation of choice in all cases is the intra-capsular enucleation of the gland leaving small portions at each angle to supply the body demand. These small portions may enlarge but seldom to such an extent as to give trouble. A partial enucleation including only that portion which is enlarged leaving the remainder of the gland in situ, is not to be recommended. In these cases the residual gland will hypertrophy rapidly and symptoms will not be relieved.

In the milder forms and in the earlier stages ligature of one or more of the thyroid arteries will frequently produce a marked decrease in the tumor and in the symptoms but when collateral circulation is set up the symptoms break forth with greater vigor than before.

In many cases where the toxemia persists for some time and the effects persist or tend to increase, ligaturing of the arteries under local anesthesia will markedly improve the condition. Sometimes this improvement is so marked that the more extensive enucleation may be performed.

It should however seldom be considered as the final step in treatment unless the case prevents further action, or good permanent results have been procured by the procedure.

Electricity has in many cases proved of marked benefit but on the whole the results are not gratifying. The same may be said of local applications but to a greater degree.

♣ ♣ ♣

COUGH AND MEASLES.

In children for cough or measles the following is a good compound:

℞

Syrup ipecac.

Tinct. opium et camph. aa.....ʒ iv

Syrupi scillae .....ʒ j

M. Sig. Dose one-half teaspoonful every two hours.

DEPT. OF THERAPEUTICS

WM. F. WAUGH, A. M. M. D., Chicago, Ill.

HYPODERMIC MEDICATION.

Le Monde Medical, which rarely fails to contribute something of practical utility, furnishes in the issue of Oct. 5, 1912, a condensation from a work recently printed in Paris on hypodermic medication. From this we take the following items:

Digitalin cryst., Gram 0.02; chloroform q. s. to dissolve; sterilize olive oil to make 100 Cc. Dose 2 Cc to 3 Cc. intramuscularly. When the dose passes 3 Cc. wait 8 days before repeating it. Not very useful—buccal administration suffices.

Caffeine 2.50; soda benzoate 3.50; distilled water q. s. to 10 Cc. Dose 2 to 4 Cc. daily subcutaneously. Warm to 37 C. before injecting. For cardiac weakness of any sort. Medication of urgence, not prolonged.

Sparteine sulphate 0.50; distilled water 10 Cc. Dose 1 to 2 Cc.; subcutaneously. To tonify and regulate the heart. Does not accumulate.

Sparteine sulphate 0.50; strychnine sulph., 0.01; dist. water 10 Cc. Dose 1 to 2 Cc. daily. For profound asthenia.

Strophanthin amorphous 0.005; serum physiologic 50 Cc. to 1 Cc. not more than three times a day, intravenously, adults exclusively. For grave asystoly, rebellious, immediate danger. Use with extreme prudence. Of multiple injections totaling ¼ milligram do not give results, do not continue for fear of accidents. If digitalin had already been given in full dose withhold strophanthin for four days.

Atropine sulphate 0.01; dist. water 40.1 to 4 Cc., subcutaneously to adults alone, in 24 hours. For bradycardia.

Camphor 5.0; olive oil washed with alcohol 50.0. Dose up to 5 Cc. and more in 24 hours, intramuscularly. General stimulant, very precious in the acute cardiac accidents of different maladies, myocardites, asytolia, collapse, coma. The action may be prolonged. Not contraindicated for children.

Ether should only be injected intramuscularly, avoiding nerves. Dose 1 Cc. four times a day. In extreme urgency inject many times. Camphor and ether may be alternated with sparteine. Camphor 1.0, ether 10.0. Dose as ether.

Camphor 1.0; olive oil washed with alcohol 5.0; ether 5.0. Less painful than ether alone.

Glycerin, pure, sterilized, 3 Cc. Add caffeine, soda salicylate aa. 0.25. Dissolve in distilled water q. s. to 1 Cc. Then add alcohol camphor of the Codex 1.0 gram. 5 Cc. represents 0.25 caffeine and 0.1 camphor. Inject into the muscles 5 to 20 Cc. during the day, in doses of 5 Cc. The injection is painful.

Artificial serums. Saline solutions isotonic with blood serum are general hematopoietic stimulants by the secondary leucocytosis they favor, hypertensors, diuretics. Their subcutaneous or intravenous injection gives them place as remedies in grave accidents when one needs to increase the force of the heart, in grave asytoly, collapse and shock. Save in free hemorrhages there is no need of large quantities. 30, 60, or 100 Cc. two or three times a day, suffice. These doses may be dangerous if a chloride serum is employed in renal or cardiac maladies where arterial hypertension and chloride retention are present. Use here sodium sulphate, not the chloride. In acute infections doses not above 100 Cc. are the rule. Results are uncertain, and the serums are only indicated by hemorrhages or copious aquaeous discharges, such as infantile gastroenteritis, where 10 to 15 Cc. of chloride

serum may be given two or three times a day to a child weighing 4 to 6 kilos. To larger children give 200 Cc. in 24 hours. The injections should not be continued more than four days successively. In cholera, dysentery, typhoid fever with intestinal hemorrhages, inject 1500 to 2000 Cc. daily by the veins. These are excellent in all affections characterized by dehydration of the tissues. Post-operative traumatic shock with abundant hemorrhage is an indication of the first order for these injections, abundantly. But in acute intoxications, eclampsia, uremia, diabetic coma, their utility is contestable.

	Dist. Water	Soda Chloride	Soda Sulphate	Liq. Soda Hydrox	Soda Bicarb.	Soda Carb.	Calc. Chloride	Potas. Chloride	Calc. Bicarb.	Magnesia Sulphate	Soda Glycerophos	Glucose.	Soda Brom.	Sulphite Soda Oxygen
Chloride	1000	9.0	...	...	...	.	...	...	...	...	.	.	....	....
Sulphate	1000	..	35.	.	...	.	...	...	...	...	.	.	....	....
Hayem's	1000	5.	10.	...	...	.	...	...	...	...	.	.	....	....
Alkaline serums:														
Schwartz	1000	6.	...	gtt. 1-15	...	.	...	...	...	...	.	.	....	....
Calvagni	1000	7.5	...	...	5.	.	...	...	...	...	.	.	....	....
Schiess; same														
Sydmann; same														
Cantani	1000	4.	...	...	...	2.	...	...	...	...	.	.	....	....
Samul; same														
Lichtenstein; same														
Kronecker; same														
Ringer	1000	6.	...	...	...	.	0.1	0.75	0.1	...	.	.	....	....
Netter	1000	7.	...	...	0.20	.	...	0.30	...	...	.	.	....	....
Locke	1000	6.	...	...	...	.	0.26	0.40	0.03	...	.	.	....	....
Howell	1000	7.	...	...	...	.	0.26	0.30	0.20	...	.	.	....	....
Fleig	1000	6.5	...	...	1.0	.	0.20	0.30	...	0.30	4.	1.	....	....
Isotonic seawater														
Quinton	1000	6.5	0.5	...	...	.	...	...	...	1.0	.	.	0.125	0.025
Inject 5 to 50 Cc.														

Antisclereuse cardiac medication: Thiosinamin 10.0 grams, antipyrin 7., distilled water to make 100 Cc. One Cc. equal to 0.1 thiosinamin, once or twice a day for 25 to 30 days. Inject intramuscularly. May replace antipyrin by double the dose of sodium salicylate. For heart-block.

Hypertensors: Strychnine sulphate 0.02; physiologic serum 10 Cc. 1 Cc. contains 0.002 strychnine; 1 to 2 Cc. subcutaneously, up to 5 Cc. a day. Used most often in acute cardiac accidents, properly cardiac or cardiac complications of acute infections like grippe, diphtheria and scarlatina. Adrenalin 0.10; acid chlorohydric 10% 1 Cc., physiologic serum to make 100 Cc. Preserve in ampoules protected from light. 1 Cc. contains 0.001 of adrenalin. Do not exceed 1 Cc. in a day. In very grave cases, especially when cardiac accidents are consecutive to free hemorrhages, when the injection should be intravenous, one may use this formula: Adrenalin solution 1-1000 gtt. xx; physiologic serum 500 Ct. For one injection.

Hypotensors: Solution nitroglycerin 1-1000, ltt. xl.; physiologic serum 10 Cc. Inject ½ Cc. subcutaneously, two to four times a day. Or, aqueous extract 0.50; physiologic serum 10 Cc. 1 Cc. contains 5 ctgrms. of the extract. 1 to Cc. a day intramuscularly.

Yohimbine 0.01; urethane 0.05; distilled water 1 Cc. Inject subcutantously once or twice a week. Repeat to 10, 20 or 30 injections so spaced. The urethane corrects the aphrodisiac effect. Nitrite of soda has been abandoned.

Trunecek's serum. The author seeks to supply salts normally present and to whose absence he attributes arteriosclerosis. Soda sulphate 0.44; soda chloride 4.92; soda phosphate 0.15; soda carbonate 0.21; potassa sulphate

0.40; distilled water 100 Cc. Inject subcutaneously, beginning with 2 Cc., repeated every 2 to 7 days, adding each time ½ Cc. until reaching 5 to 10 Cc. After 25 to 30 injections stop for 8 or 10 days. Hemostatic medication.

All hemostatics are hypertensors and vasoconstrictors; their action is immediate and does not require the formation of a clot. Fl. ext. ergot, 1 Cc. inject subcutaneously; repeat if needed three or four times a day. In the absence of the extract use: Ergotin Bonjean, 2.0; distilled water, glycerin, each 10 Cc. inject 1 to 10 Cc. intramuscularly in 24 hours. For uterine hemorrhages; contraindicated by hemorrhages of delivery.

For same indications and contraindications: Ergotinine 0.01; acid lactic 0.02; physiologic serum 20 Cc. Inject ½ Cc. subcutaneously two or more times daily. Or, hydrastinine chlorhydrate 0.50; distilled water 10 Cc. Inject 1 Cc. subcutaneously twice in 24 hours.

Besides its vasoconstrictor action stypticine or cotarine possesses a sedative power: Cotarine hydrochloride 1.0; distilled water 10 Cc. Inject 2 Cc. subcutaneously each day.

Adrenalin is of doubtful value when used any way except locally. Gelatin has been injected subcutaneously and intravenously for a general hemostatic in hemophylia, purpura, tuberculous hemoptyses, and some hematemeses. The finest success of the remedy seems to have been attained in the treatment of aneurisms, especially of the aorta. Gelatin 10.0; soda chloride 7.0; distilled water 1000 Cc. The solution should not be acid. The possible presence of spores of tetanus in commercial gelatin necessitates a severe choice of quality and in all cases a minute sterilization; the serum being maintained at 110 degrees for at least half an hour, or Tyndalized. Inject in doses of 20 to 100 Cc. daily, at 37 degrees, in the subcutaneous tissues of the thigh or the abdomen. General but slight and passing febrile reaction often follows. Exceptionally the serum is injected intravenously or into the aneurismal cavity. It may be repeated daily, in case of need. For aneurisms repeat two or three times a week until the tumor hardens and becomes less pulsatile.

De Witte's peptone 5.0; soda chloride 0.50; distilled water 100 Cc. Filter with great care and sterilize at 120 degrees. Inject 3 to 4 Cc. once every two or three days. After four injections wait three weeks. Never use the venous way. These doses are for children aged ten, and may be passed. For congenital hemophylia and purpura.

Bronchopulmonary medication. Creosote 10.0; olive oil washed with alcohol to make 150 Cc. Use up to 5 Cc. for an infant and 15 Cc. for an adult, in 24 hours. Burlureau administered this in pulmonary tuberculosis 20 Cc. hourly, up to 200 Cc. a day.

Creosote 5.0; aristol 1.0; oil of sweet almonds to make 100 Cc. Inject 1 to 10 Cc. each 24 hours.

Guaiacol cryst. 10.0; oil of olives washed with alcohol to make 100 Cc. Inject 1 to 20 Cc. each 24 hours. The cacodylate of guaiacol has been used in the same doses but should be rejected. This salt is ill-defined, and insoluble in all injectable organic solvents, and very rapidly decomposes in presence of water.

Guaiacol 11.0; eucalyptol 8.0; olive oil washed with alcohol to make 120 Cc. Inject 10 to 20 Cc. each 24 hours.

Guaiacol 5.0; iodoform 1.0; olive oil washed with alcohol to make 100 Cc. Inject 2 to 5 Cc. each 24 hours.

Eucalyptol or gomenol 10.0; olive oil washed with alcohol to make 100 Cc. Inject 5 to 30 Cc. each 24 hours.

Eucalyptol or gomenol 12.0; guaiacol 5.0; iodoform 3.0; olive oil washed

with alcohol to make 100 Cc. Inject 1 to 3 Cc. each 24 hours.

Menthol 2.0; olive oil washed with alcohol to make 20 Cc. Inject 1 to 2 Cc. each 24 hours.

Eugenol 10.0; olive oil washed with alcohol to make 100 Cc. 1 to 2 Cc. each 24 hours.

Aristol 20.0; washed oil or olive oil to make 100 Cc. 1 to 2 Cc. in 24 hours.

Iodoform 1.0; washed olive oil to make 20 Cc. 5 Cc. in 24 hours.

Adrenalin has been used with success in the treatment of asthma. Inject ½ Cc. of the 1 to 1000 solution at the moment of access.

Oxygen subcutaneously is used for toxic asphyxias, endogenous or exogenous, especially when to the toxin is added a mechanical obstable; as in acute bronchitis, bronchopneumonia, capillary bronchitis, and pneumonia. Remarkable results are obtained. Paint with iodine the skin of thigh or abdomen, insert the needle and draw to make sure a vein has not been pierced, apply to the needle a little absorbent cotton to filter the gas and exclude dust; attach to the oxygen bag and let a liter to 1½ slowly pass under the skin. The gaseous ball disappears in some hours, and the injection may be repeated many times a day without inconvenience. When in extreme urgency oxygen is injected into the veins it should be so slowly as to permit the gas to be absorbed by the red corpuscles, as fast as it is introduced; not more than 500 Cc. in an hour. One cannot ignore the danger of gaseous embolism.

Medication of the Nervous System.

Stimulant: Strychnine sulphate or nitrate 0.02; physiologic serum 10 Cc. ¼ to 2 Cc. subcutaneously at once. It is prudent to begin with small doses to test the reaction of the patient, but one need not exaggerate the toxicity of strychnine. Without any advantage the arsenate or cacodylate of stryrhnine may be used in the same doses.

Yohimbine possesses no stimulant power over the nervous system but exercises an aphrodisiac effect. One centigram may be injected daily in 1 Cc. of physiologic serum.

Antispasmodic and hypnotic medication: Morphine chlorohydrate, inject 0.01 to 0.02 in distilled water subcutaneously. To adults give 0.005 to 0.05 in 23 hours; with children give none under three years of age, and to older children each 24 hours a milligram for each year. In whooping cought Triboulet gave without inconvenience up to 0.01 even to nurslings. When morphine occasions an increase of cardiac weakness use: Morphine chlorhydrate 0.1; sparteine sulphate 0.5; distilled water 10 Cc. Dose 1 Cc.

The association of atropine and especially of scopolamine corrects the slowing of the heart beats, and increases the analgesic and anti-spasmodic propertise of morphine: Morphine chlorhydrate 0.1; atropine sulphate 0.005; distilled water 10 Cc. Dose 1 Cc. For general anesthesia inject 1½ Cc. twenty to thirty minutes before chloroformization. In general therapeutics use as morphine.

Scopolamine bromhydrate 0.003; morphine chlorhydrate 0.05; distilled water 10 Cc. 1 Cc. in 24 hours for an adult only. For general anesthresia before chloroform the use of scopolamine-morphine is current. Scopolamine bromhydrate 0.01; morphine chlorhydrate 0.1; distilled water 10 Cc. Inject 1 Cc. 20 to 30 minutes before chloroform.

Heroine may be used in place of morphine but presents no advantages. Heroinomania?

Atropine, ⅛ to ¼ milligram in distilled water may be injected in adults not more than four times daily. The same as to scopolamine alone, but be careful about doses exceeding a milligram. The salt must be very pure and free from traces of hyoscyamine.

For convulsive states, chorea, Parkinson's disease.

Duboisine has been preconized for the nervous troubles of Basedow's disease. ¼ to ½ milligram in distilled water. Very toxic and cumulative.

Tonic medication: The phosphated serums furnish the organism not so much a provision of phosphates as a general stimulation of the nervous system. The isotonic serums may be given in large doses; the hypertonic in doses of 1 to 10 Cc. per diem.

Isotonic:

Crocq's serum: Soda phosphate 2.0; distilled water 100.

Dujardin-Beaumetz': Soda carbonate 0.1; potasa sulphate 0.1; soda sulphate 0.1; soda chloride 0.31; soda phosphate 0.05; distilled water 100 Cc.

Herard's: Soda chlorate 0.05; potassium chloride 0.025; soda phosphate 0.125; soda chloride 0.425; distilled water 100 Cc.

Hypertonic:

Sapelier's: Soda chloride 6.50; potassium chloride 0.50; soda carbonate 3.10; soda phosphate 0.45; potassa sulphate 0.45; distilled water 100 Cc.

Bardet's: Soda chloride 1.0; acid phenic neige 0.50; soda phosphate 3.0; soda sulphate 2.0; distilled water 100 Cc.

Cheron's: Acid phenic neigeux 1.0; soda chloride 2.0; soda phosphate 4.0; soda sulphate 8.0; distilled water 100 Cc.

The phenic acid may be omitted as it renders the injections less painful.

Luton's: Soda sulphate 10.0; soda sulphate 5.0; distilled water 100 Cc.

Vandevelde's: Soda chloride 3.0; potassium chloride 3.0; soda carbonate 2.50; soda phosphate 3.0; potassa sulphate 2.0; distilled water 100 Cc.

Mathieu's: Soda sulphate 6.0; soda phosphate 4.0; soda chloride 1.0; glycerin 20 Cc. distilled water 100 Cc.

Huchard's: Soda phosphate 10.0; soda chloride 5.0; soda sulphate 2.5; distilled water 100 Cc.

Reconstituent medication: Soda glycerophosphate '.0; distilled water 10 Cc. ' to 5 Cc. a day subcutaneously.

The isotonic solution is better—of one-fourth the above strength, injecting up to 25 Cc. daily—much less painful.

One may add strychnine: Soda glycerophosphate 1.0; distilled water to make 5 Cc. neutralize with care and add: strychnine sulphate 0.01; distilled water 5 Cc. Dose 1 to 5 Cc. each 2 hours. Lecithin 5.0; washed olive oil 100 Cc. Inject up to 5 Cc. each 24 hours.

Ferric medication:

Iron citrate, green or ammoniated 1 to 3.0; distilled water 10 Cc. 1 to 2 Cc. daily intramuscularly.

Iron and soda glycerophosphates of each 0.50; distilled water to make 20 Cc. Same dose.

Citroammoniacal arsenate of iron 0.50; distilled water 20 Cc. 1 to 2 Cc. a day intramuscularly.

Use these iron preparations with prudence in the tuberculous with a tendency to hemoptysis and congestive manifestations.

Ferric chloride 0.05 to 0.055; soda glycerophosphate 4.0; bring to boiling in a cencentrated solution, cool and add soda bicarbonate and then mix with soda chloride 6.5; potassium chloride 0.30; calcium chloride 0.20; magnesia sulphate 0.30; glucose 1.0; oxygen to saturation; water to 1000 Cc. Sterilize in autoclave at 110 degrees. Formula very alterable. Prepare at the moment of need. For chlorosis and anemia with hemorrhages.

Arsenical medication:

Cacodylate or methylarsenate of soda 5.0; distilled water 100 Cc. Maximum 8 Cc. in 24 hours. No advantage accrues from the use of the cacodylates of lime and magnesia.

Ferric cacodylate 0.30; distilled water 10 Cc.

Methylarsenates of iron and soda each 0.'0; distilled water 10 Cc. Inject when possible intramuscularly, as the soda arsenates.

Medication for nutritional troubles: Soda bicarbonate 30 to 90.0; distilled water to make one liter. For diabetic coma inject 500 Cc. at a time, repeated at need. Slight hemolysis or uribilinuria may follow; this may be lessened injecting exceedinly slowly. Lepine's isotonic solution has too little alkali to be useful—soda bicarbonate 17 grams to the liter.

Treatment of gout: Soda salicylate 10.0; distilled water 20 Cc. Warm to 17 degrees before injecting, intramuscularly, up to 4 Cc. a day. Given thus it does not cause ringing of the ears.

Colchicine 0.05; alcohol at 90 degrees; 5 Cc. distilled water to make 20 Cc. 1 to 2 Cc. daily, for adults alone.

Piperazine chlorhydrate 2.0; distilled water to make 20 Cc. For adults inject up to 2 Cc. daily.

For acute articular rheumatism inject salol one part to four of olive oil; up to 8 Cc. for adults, 2 Cc. for infants.

For the sclerotic lesions of chronic rheumatism thiosinamin may be employed as given above.

Antiinfectious medication:

Argosol, 5 to 20 Cc. intravenously or intramuscularly. Or, Collargol 1.0; distilled water 100 Cc. prepare cold and do not sterilize. 1 to 5 Cc. given as with argosol.

Soda nucleinate 2 to 5.0; distilled water 100 Cc. Do not sterilize with heat. Inject subcutaneously 20 to 25 Cc. of the weaker solution or 8 to 10 Cc. of the stronger, during 24 hours. Make three injections at two days' intervals, lessening the doses each time.

Camphor oil in feeble doses is employed in infections to combat weakness of the heart. In massive doses it acts as an antitoxin.

In septicemias, pneumonias, bronchopneumonias, the generalized bronchites of the aged and of infants they have given good results. In habitual cases one injects into the groin in one or several doses 10 to 20 Cc. camphor oil, by day, or better with the addition of 10% ether, which fluidifies the oil and facilitates the injection. This may be repeated for many days without inconvenience. In grave infections 100 Cc. a day may be injected without accidents.

Apomorphine chlorhydrate 0.05; distilled water 10 Cc. Inject 1 to 2 Cc. for adults exclusively. In case of absolute necessity ½ to 1 Cc. for infants of five to ten years.

Antidotic and neutralizing medication—

Opiate poisoning: If all else fails use atropine, injecting 0.02 repeated every two hours, until mydriasis is established.

Atropine poisoning: Reciprocally, employ morphine, until myosis follows. Pilocarpine is mistakenly advised here.

Muscarine, mushroom poisoning: The remedy is atropine, 0.0025 to 0.005 repeated as needed.

Treatment of syphilis: Most of the mercurials have been used and abandoned. Mercury bromide cryst. 1.80; soda bromide 1.40; distilled water 100.00. Or, mercury bromide 1.80; sola chloride driel 0.60; distilled water 100.00. Inject 1 Cc. a day. Less painful than sublimate. Mercury biniodide 0.20; soda iodide pure 0.20; soda chloride 0.075; distilled water 10 Cc. This is isotonic with blood serum. Inject 1 to 2 Cc. a day. This is the best of the mercurial solutions for such use. It is painful.

Mercury biniodide 0.40; pure sterilizel olive oil 100 Cc. The dose of 0.004 per Cc. is too weak. By using castor oil one may secure a strength of 0.02 per Cc. This may be completely painless.

Cyanide of mercury, 1% solution, in doses of 1 Cc. in 24 hours, is active but

very toxic and painful. In grave cases ot may be used intravenously, when employed intramuscularly use this formula: Mercury cyanide 0.10; stovaine 0.10; listillel water 10 Cc.

We may inject 2 to 5 Cc. per diem of a solution of mercury colloid, obtained by electricity, containing ½ milligram of the metal per Cc. Of mercury benzoate use a salt recently prepared, well washed and dried. Gaucher's solution: Mercury benzoate 1.0; soda chloride 2.50; distilled water 100.0 Daily dose 2 Cc. up to 4 Cc.

Gray oil: Mercury purified 40.0; wool fat 26.0; vaselin oil 60.0. Inject 7 to 12 centigrams per week according to the patient's weight, for a man, .06 to .10 for a woman.

Of calomel Darier's formula is best: Calomel 0.50; vaselin oil 4.20; vaselin well neutral 3.20; guaiacol cryst. 0.30; camphor 0.p0. 1 Cc. contains 0.05 calomel. Dose 0.05 a week, which may be doubled. Salvarsan is the only arsenical that should be employed for syphilis.

Serums and vaccines. This department is treated sufficiently in the journals. De Beurmann and Villejean's solution: Quinine bichlorhydrate 5.0; distilled water 10 Cc. The injections cause acute pains that persist many hours.

Quinine monochlorhydrate 3.0; urethan .0; distilled water 5.0. Dissolve by warming slightly. Absorption is more rapid than with Laveran's solution: Quinine monochlorhydrate 3.0; antipyrin 2.0; distilled water 6.0.

Quinine formate 0.50; distilled water to make 10 Cc.

All the foregoing should be injected into muscular tissue. For intravenous injections use Baccelli's formula: Quinine chlorhydrate 1.0; soda chloride 0.75; water 1 0Cc.

Local dental anesthesia. For extraction of teeth or other operations not upon the pulp or the dentine: Novocaine distilled water to make 10 Cc.

For dentine or pulp anesthesia: Novocaine 0.50; adrenalin 0.00025 to 0.0005; distilled water to make 10 Cc.

Local or regional anesthesia: Cocaine 0.10 to 0.20; physiologic serum to make 10 Cc. Inject intradermically. Do not exceed 0.10 in oue seance.

Stovaine may be used in the same strength, and manner, not exceeding 0.20 of stovaine at any one seance.

Novocaine 0.50; adrenalin solution 1-1000 gtt. xxv.; physiologic serum 100 Cc. Use in the same manner, not pasing the dose of 0.30 of novocaine.

For external tuberculosis: Under no pretext inject naphthol camphor, on account of the possibility of embolism. Same as to thymol camphor, made by bringing together two parts camphor and one part of thymol. If this is used at the moment of injection add an equal volume of ether, and inject into the cavity after having emptied it. Never inject more than ½ Cc. at one time. Better are the following:

Iodoform 5.0; ether 100.0. Not over 2 to 5 Cc. at a time, in the abscess cavity. Leave the trocar in place, stopping the exit; when the distention becomes too great let the ether vapors escape. This may be repeated many times.

Lannelomgue's: Beechwood creosote 2.0; ether 10.0; iodoform 10.0; oil of sweet almond 90.0.

Calot's: Creoste 2.0; iodoform 5.0; ether, sterilized oil each 50.0.

Privat's: Creosote 1.0; guaiacol 2.0; iodoform 10.0; sterilized olive oil 100.0.

Paris': Guaiacol, creosote each 2.0; iodoform 5.0; ether anesthesic 20.0; sterile olive oil 100 Cc.

Gomenol 5.0; olive oil 100 Cc.

Either of the above may be given in doses of 2 to 5 Cc. repeated five to eight times at intervals of five or six days.

DEPT. of OBSTETRICS and GYNAECOLOGY

Conducted by
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DIFFERENTIAL DIAGNOSIS OF ABDOMINAL SWELLINGS.

Pregnancy should always be born in mind when examining a woman. It must always be ruled out by rigid evidence, as well from the physical findings as from the anamnesis. In early pregnancy, before the uterine tumor itself is of sufficient size to be noted on abdominal palpation, the abdomen will nevertheless be distended by gas due to the digestive disturbances always present during the first months. As the uterus rises into the abdomen it will be felt as a smooth rounded swelling mostly in the median line, progressively extending, with the advance of gestation, upwards and to each side until at last it nearly fills the abdominal cavity. After the sixth month, sometimes earlier, the fetal parts can be felt, the fetal heart tones heard and the fetal motions perceived by inspection and palpation.

Tumors of any organ of the abdomen; of liver, spleen, stomach, intestine, mesentery, omentum, kidney, abdominal wall, pancreas, retro-peritoneal space or vessels wil be observed in the customary locality or extending from the organ involved into wider regions. Tumors of the pelvic organs will be found to have origin within the pelvic cavity or the history will show that such was the origin. Tumors of the uterus, except subperitoneal fibroids, are usually regular in outline. Such a tumor may indicate gestation, subinvolution, metritis, pyometra (pus in the uterus- hematometra (blood in the uterus), lochiometra (retention of lochia within uterine cavity), physometra (gas in the uterus), submucous or interstitial fibroids. Uterine tumors of irregular outline may be fibroids irregularly placed, especially pedunculated subperitoneal fibroids, sarcoma or carcinoma of the body, and uterine malformations. The uterine tumor usually grows upwards mainly in the median line of the body.

Ovarian tumors may be cystic or solid. They usually grow starting from one side of the pelvis, extending from one of the inguinal regions to encroach upon the other regions of the abdomen. The cystic tumor may be unilocular, in which case it will have a regular rounded surface and will usually give fluctuation. Percussion will remain about the same whatever the position of the patient. Dermoid tumors of the ovary are of a semi-solid consistency and may give no fluctuation. They rarely are larger than a full-term fetal head and they grow slowly. Sometimes bony plates may be palpated. The multilocular ovarian cysts have an irregular outline and a different consistency in different parts, rarely showing fluctuation but sometimes giving a sort of fremitus. They are apt to be large and to be accompanied by ascites. The papillomatus cysts may contain enough fluid to give fluctuation waves or may be semi-solid, depending upon the development within them of the papillomatous growths. They are usually accompanied by ascites and, when the cysts have burst and allowed the papillomatous masses to grow into the abdominal cavity and to become attached to various places within it, they may cause the existence of many irregular semisolid tumors in various locations. The solid tumors of the ovary are seldom large enough to be palpable through the abdominal walls except with the help of internal examination. They are rare, and comprise fibromata, sarcomata or carcinomata. If the last they are apt to exist

in both ovaries. With malignant disease of the ovaries ascites usually coexists, often bloody.

Tubal swellings are usually not large enough to be felt through the abdominal wall. Sometimes pyosalpinx, hydrosalpinx (watery fluid in the tube), hematosalpinx, or tubal pregnancy may extend into the abdomen far enough to be palpated. It is impossible to diagnosticate them without internal vaginal or bimanual examination.

Other pelvic tumors are: adhesions matting tubes, ovaries uterus, omentum and often masses of intestine together; effusions of blood, serum, lymph, pus, etc.; tubo-ovarian cysts; par-ovarian tumors. With the exception of the last they are seldom diagnosticated through the abdominal wall. Parovarian tumors, usually cysts developing from the rudimentary tubules of the parovarium, may become large enough to be perceptible from above. They grow within the folls of the broad ligament and resemble ovarian cysts except that they usually do not have such an evident pedicle.

ELECTRO THERAPEUTICS

By H. C. BENNETT, M. D. M. E., Lima Ohio

SEASONABLE HINTS.

When you receive a tube during the fall and winter months, be careful in unpacking it. You must remember that the tube has been exposed to the cold weather for hours, perhaps days, and when you bring it into a hot room, it is exposed to extremes of temperature which may cause it to break. Remember, too, that your tube is really a vacuum bottle, that it takes hours for the heat of the room to get into the terminals, and that after you have used your tube and have heated the terminals very hot, it takes hours for it to cool down. Do not take a warm tube out into the cold air unprotected.

If you have a ring on your finger, remember not to handle a tube which has recently run without discharging it (by touching the caps at both ends at the same time), neither allow it to touch any metal. If you do, you may get a static discharge from the inside of the tube to the metal, causing a puncture.

When handling plates in the dark room, be sure that the temperature of the solution is not below 60° or over 70°. In mixing your developer, if you have cold plates, cold trays, and a cold room, use warm water. You cannot expect to get good results from your negatives if your temperature is below 60° or over 70°. Use your thermomter: this is very important.

During the winter many plates are spoiled, or underdeveloped because the solutions are too cold and do not allow of proper chemical action.

Dno't neglect to wash all trays, bottles, graduates, etc., both before and after using.

Don't neglect to test your dark room lamp at least once in six months. A good way is to cover half a plate with cardboard, expose the remaining half for about five minutes, and develop for the usual time in total darkness. The result may show you why your plates are foggy.

Don't forget to use a thermometer with your developer, especially in the winter. The temperature should be about 65° and each degree variation from this means nearly a minute variation in length of time you should develop the plate.

Don't use the same tray for developing and fixing: traces of hypo may remain.

Don't forget to wipe up all hypo

from the floor, sink, bench, etc., if you want good, clean plates without spots.

Don't think because your apparatus cost a thousand dollars that you are bound to get good results even if you give the plate to a three-dollar-a-week assistant to develop for you. If he could do it as well as you can, he would be getting more money.

Don't forget that the strength of a chain is its weakest link, so will the excellence of your results depend on the proper care of every one of the operations of taking the picture and not on a part of them.

Don't fail to have a proper viewing box for diagnosing the negative. A proper viewing box will bring out the details in a weak negative that will surprise you.

Don't foregt that time in a dark room often moves very slowly, and you may think the plate has been developing much longer than it really has. A clock is a mighty fine thing in the dark room, or, better still, an interval timer.

DEPT. OF GENITO-URINARY DISEASES

Conducted by
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TUBERCULOSIS OF KIDNEY.

The kidney is the most frequently attacked by tuberculosis of any organ in the genito-urinary tract and strictly speaking it is secondarily infected from some other focus most commonly the lungs, bones or glands.

It is stated that there are only five cases of primary unilateral tuberculosis on record in which autopsy showed no other tubercular lesions and these are questionable. (Guteras).

The most common means of infection is by the blood stream, next the lymphatics, then by contact as from diseased vertebrae, glands, etc., and last ascending infection from the bladder and genital organs. This is not common, the reverse being more frequent, namely the bladder and genital organs being infected by the kidney.

Clinically we have either an acute miliary or a chronic process.

The acute form accompanies a general tuberculosis, affects both kidneys and belongs to the domain of internal medicine as surgery would naturally be contra-indicated in a general infection with the possible exception of evacuating pus merely as a temporary measure.

In the chronic type the process extends over varying periods of time depending probably on the individual resistance and environment.

It is in this class of cases that an early diagnosis is of so much importance as proper treatment instituted early offers a more than fair chance of relief.

In the chronic type tuberculosis is found in one kidney in about 50% of those presenting themselves for treatment.

Treatment: The first subjective symptoms are usually frequently urination, pain in the bladder with tenesmus and burning.

The first objective symptoms are increased pollakiuria, pus anl blood in the urine.

3rd: Pain in the loin, presence of a tumor, chills, fever, loss of weight will make their appearance depending on progress and length of time infection has been present.

Diagnosis: Roughly speaking all cases of so called cystitis that do not respond to careful treatment should lead one to investigate thoroughly for

tuberculosis as the probability is that the pus comes from the kidney and not primarily from the bladder, this also applies to microscopical blood in the urine which is rarely absent in tuberculosis of the kidney.

Another important fact to remember is the following: An irritable bladder with leucocytes in the urine and no culture can be obtained from same, is pathognomonic of tuberculosis.

The main point of course in arriving at a diagnosis is to find tubercle bacillus in the urine, this is not always easily accomplished. Casper states in 70%-80% they can be found. The fact of the matter is the success or failure depends upon the time spent looking for them.

If not found by the above, the method most relied upon is to inject specimen of urine into the peritoneal cavity of a guinea pig and a post-mortem in four to six weeks will demonstrate the presence or absence of tubercles.

Now where tuberculosis has been identified it is not always known whether one kidney, which one or both are involved and it is here the catheterizing cystoscope is invaluable as the urine can be obtained separately and at the same time any necessary functional tests may be applied and the secreting capacity of each kidney ascertained thereby giving an idea of how much destruction has taken place and furnishing information that will guide one as to the treatment to be followed.

Often by examination of the bladder it is possible to tell which kidney is affected judging from the ureteral orifice and surounding area, however this is not so safe and is open to errors and should not be depended upon unless it is impossible to catheterize the ureters.

Treatment: In severe cass when the other kidney may be nephritic or amyloid and in which other pronounced foci of tuberculosis are present treatment can only be symptomatic.

In tuberculosis of one kidney, namely an apparently favorable case, the treatment should be removal of affected organ. There is considerable difference of opinion as to the advisability of this procedure as the argument is advanced that some of these kidneys will recover spontaneously. No doubt this is sometimes the case but there is more likelihood that in the majority the disease will increase and the healthy kidney become involved, so the consensus of opinion is that the kidney should be removed as soon as possible. Further will say that moderate involvement of lung or bladder is no contraindication as bladder will improve when source of tubercular material is removed

TUBERCULIN IN CATTLE.

Tuberculin in Cattle. Circular 190 of the U. S. Department of Agriculture deals with the vaccination of cattle against tuberculosis. Some interesting data are given. Heymanns inserts into the animal unattenuated tubercle bacilli encosed in a dialyzing membrane. This is repeated annually. No segregation is attempted. By this time 86% of the tuberculous centers have been wiped out in four years. The animals cease to react to tuberculin, and in 1000 autopsies it was found that the disease had been arrested or retrogressed but total extirpation was rare.

Experiments made by the Department with Heymann's method applied to hogs proved to be failures. The methols of Cearson and von Behring were aso tested. The general conclusion reached was, that "no system of bovovaccination has reached a stage at the present time that justifies its use in common practice.

OPHTHALMOLOGY and OTO-LARYNGOLOGY

Conducted by
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EYE DEGENERATES.

Dr. L. H. Buxton, a well known Western ophthalmologist read an important paper on eye degenerates at a recent meeting of the Western Oklahoma Medical Association. The paper is published in the United States Medical Journal.

Introductory:

A degnerate is one who in character or quality has sunk below the normal type, standard or condition.

The laws of degeneracy are as fixed and as clearly demonstrated as are those of the solar system. Exceedingly interesting is the study of the evolution and decay of nations. The primal cause of the overthrow of Rome and that which made of the Roman legions a routed mob, is found in the laws of degeneracy.

This "dry rot" or decay of a nation, or of a people, or of an individual lies not in the particular race, not in the form of government, not in ambition, not in wealth, not in luxury, but in the influences by which the best men are cut off from the chief object of life—parenthood.

I have not the time to trace with you the fall of the Greek, the Roman and other people in ancient and modern days, but the conditions and influences —be they war, idleness, luxury or art —that lessen or deny parenthood to the best, bravest and wisest, produce degeneracy of the nation, race or individual. Today in our nation, luxury is not to be feared as a leading cause of degeneracy, for only one man in one thousand can live in luxury, and the same may be said of the development of the mental at the expense of the physical. That is not true of our vices, alcoholism, licentiousness or the destruction of the home, for they affect the thousands and not the few.

Luther Burbank is no wizard in producing his new and wonderful plants, fruits and flowers. He is simply following the law of "like seed is the harvest' and he is selecting the right seed. Man is under the same law of degeneracy that makes of the American Beauty rose a bramble bush by the roadside, if not segregated; or reduces the beautiful Plymouth Rock cock to a common barnyard fowl if not likewise protected. The survival of the unfittest is the primal cause of the downfall of man, mentally and physically.

For many generations the severe military selection which ruled in Switzerland, Savoy and Lombardy, taking the strongest and best and refusing the idiot or those with a goitre, resulted in the goiterous cretin, which has been for centuries the object of charity in Aosota. Here is a special asylum devoted to these cases. Here also Cretin has intermarried with Cretin until half intelligent human beings line the roads of the district.

The facts that impress us are that the constant rejection of myopes and eye degenerates from the armies of the world have left these degenerates to breed while the perfect man has been emasculated by his army service.

From thse lessons we gather that it is of the highest importance to prevent the agencies that would tend to produce degenerates. Are we to be the cradle of a new race or the grave of the old race, is the question that America is solving today.

Eye Degenerates. Degeneracy may manifest itself in any part of the human body. Among its most striking pictures are changes seen in the eyes. Degeneracy is to be differentiated from diseased conditions arising from pathological causes, as iritis from gonorrhea or syphilis, or retinitis from albuminuria.

Degeneracy is a lower type of physical development or resistance than the normal. Thes tendencies toward a lower or degenerate development are inherited and are manifest at birth, or they may contribute later to the development of pathological processes because of sub-normal resistance to disease, as is the case in tuberculosis.

Eye degenerates may have inherited a physical defect in ocular structure which remains stationary through life, as is seen in aniridia, albinism and astigmatism, or this physcal defect may become worse through abuse or lack of proper care of an already deficient eye, as is seen in myopia; or this physical defect may be made better in a certain class of cases, as in congenital cataract, through surgical interference.

In all of these three varieties of eye degeneracy we are interested. To all these unfortunates the oculist should be a "father confessor." These people should not go from our offices carrying the impression that because of the nature of their defects there is no hope and nothing to do. There is everything for their good to be done. The practice of medicine today consists more in giving scientific advice founded upon wide experience and research than in administering drugs or in surgical interference. Let us now consider the subject from two points of view:

First, the cause of degeneracy and its prevention; second, the results of degeneracy of the eye structures upon the life of the subject: the relief that can be offered to prevent further deviation from the normal and a selection of the proper environment for eye degenerates.

The Etiology of Eye Degenerates.—There is a cause for all eye degeneracy and this can nearly always be found in heredity or consanguinity. In a report of 35,955 cases of double blindness by the United States Census Bureau, the cause of 4,267, or 11.87 per cent. were given as congenital. With such superficial history as the census gatherers had at their command, we can only imagine how much greater per cent would have been found on a more scientific examination of the 35,955 cases.

Heredity is one of the marked causes of eye degeneracy. Hereditary transmission may take place in one or two ways. Dircet, the same disease being present in the one who inherits and the one who transmits it; or by correlation, the disease being different in a family of children, one child may have retinitis pigmentosa, another be a deaf mute and another be an idiot.

Some authors classify heredity as direct, indirect or collateral. In direct, as stated heretofore, the same disease is found in parent and child and other members of the parent's family may be affected also. In indirect, one or more children suffer from a disease which does not occur in the parents, but is present in an ancestor or aunt or uncle. In indirect the disease is latent in the parent, but the parent does not transmit the degenerate tendency. In collateral heredity two or more children suffer from a common disease found in no nearer relative than cousins of the same generation. This latter form of degeneracy is found in children of consanguinitous parents. There is no doubt that this latter form would come under the second classification if a perfect ancestorial history could be secured.

The eye diseases due to degeneracy and especially to heredity and con-

sanguinitous marriages are albinism, aniridia, anophthalmus and microphthalmus, atrophy of the optic nerve, cataract, dislocation of the lens, degeneracy of the cornea, glaucoma, nystagmus, strabismus, ptosis and retinitis pigmentosa.

Loeb reports in a paper read before the American Academy of Ophthalmology and Oto-laryngology, a case of the presence of cataract in all members of a family for five generations. In another report is stated that in one hundred and eighteen families, in which either the father or mother had retinitis pigmentosa , exactly half of 382 children were likewise afflicted. A like percentage was found in nystagmus and a higher percentage in strabimus and ptosis. Forty-three families in which the father or mother had glaucoma seventy of the one hundred and twenty-nine children were affected, and a very similar record in atrophy of the optic nerve.

Consanguinity also plays an important part in eye degenerates. A family now residing in Lincoln county have a number of children presenting partial or complete aniridia. In one case that came under my observation the iris was completely wanting, only a ragged fringe of ciliary zone was remaining. I also found another family with two children with a difference of twelve years in their ages, having congenital cataract. The younger child I successfully operated upon in 1911. All of these cases were due to inter-marriage.

The Results of Degeneracy Upon Eye Structures. The impairment of vision is a most serious handicap in all walks of life; this is especially true of the young who have to gain about all their useful knowledge of the world through this one sense.

The refractive eye degenerates, as well as those with disturbances of the muscular equilibrium and defective sight from other causes, accept these defects in three ways; one class accepts their condition, making no physical effort to overcome it; these we call stupid. Another class exert great physical and nervous effort to overcome the defect at great damage to other structures of the body. Some of these succeed partially, others fail. The third class, which constitutes much the larger, become discouraged in the fight and suffer the pangs of defeat. They will not accept the lower walks of life to which they are alone fitted. The third class are those referred to by Mr. Joseph F. Scott in an address before the National Prison Congress, where he said in discussing a class of defective eye people:

They seek to get by foul means what they ought to get by fair. And so, from childhood up, the world to them is never quite right. They are taught to think white when they see black. What they are told is straight, to them seems crooked. How can an individual so weighted be expected to be like other men? To him things are never as they seem. He thinks the whole world is wrong. He becomes a criminal from necessity."

Such expressions but open a door to other far-reaching possibilities as due to eye defects. Not alone does man's physical existence depend upon seeing, but his mental development is a product of his vision. A human being entering life with defective eyes is at a disadvantage with every other man. His constant eye strain disturbs his mental process; if he lacks ambition he is a backward child, if he is the opposite he becomes irritable and may end as a neurotic with tendencies toward hysteria, mental unbalance, criminal tendencies or alcoholism.

From a large mass of ophthalmic literature covering exhaustive investigation we find the facts well established that ametropia does exist to a surprising degree, among the younger class of

criminals, and its correction in many cases has done much toward ameliorating their perverse tendencies.

Risley found a large percentage of cases of defective vision among the feeble-minded children at the institution at Elwyn, Pa. Case from very careful study of the reformatories of New York finds that ametropia is an etiological factor in having produced a criminal tendency among the younger inmates. But a more remarkable discovery was also made, through long years of study of this class of cases, namly, that a correction of the eye defects when possible in many cases produced most happy results.

It is a well known fact that man does not suddenly become a criminal, but a study of each case will no doubt reveal a primal cause from ancestry, environment, association, education, habit of life, attainments or physical and mental conditions, or a combination of some of these.

It seems to the author that experts should visit all our institutions in which children and youth or segregated, from the orphan asylums to the state reformatory, and ascertain the causes, if possible, which make any child or youth a mental or moral degenerate.

The state should correct so far as possible, any defects among the inmates of any charitable or penal institution where found.

We give to the normal child a first class education to make it of the greatest value to the state. Should not the state give more particular attention to the child who is likely to become a menace to society, a burden to the state and has not an even chance to make life a success? Every case of criminal tendency in the youth that comes to our police courts should be professionally investigated and any defect that might contribute to cause such delinquency should, if possible, be removed. Let the state be not content to "lock the barn (and the man) after the horse is stolen."

The general public should become sufficiently frightened by these facts to avoid consanguinitous marriages or marriages between those suffering from eye defects, as myopia, high degrees of astigmatism and amblyopia of one eye.

Relief to Be Afforded. As myopia is one of the most usual forms of degeneracy a special reference to it here is proper.

To prevent the increase of myopia or other pathological changes liable to occur from lack of proper care of the eyes, oblique inclination of the head while at work is to be avoided. Illumination must be of the best. School room illumination should be from the left shoulder. Glass area one to five of floor space with windows to ceiling. Skylight illumination is best for all these defects. Type of books should never be more than three mm and 22 lines upon 100 mm paper. Length of line 100 mm to all text books.

No near work should be continued for any length of time. Reading in moving vehicles should be prohibited. No school work should be required until 8 years of age and then not to exceed four hours daily until 10 years of age; or a total of 20 hours a week; this to include work at home as well as at school. Eight hours per day for near work is the limit for myopia from sixteen years and afterward. This work must never be continuous, but be broken at least every thirty minutes. Calisthenics, manual work and physical culture should be part of every school schedule. In other words, there should be a rotation of distant and near work.

The greater the myopia, combined with any hereditary tendency, the more cause for rigid enforcement of these rules. Examinations of myopia should be made yearly or oftener in case of ocular disturbances or in case of any

progression of the disease. Work should be reduced to a minimum.

Our duty as oculists should make us alive to our responsiblity in eradicating as far as possible eye disease due to consanguinitous marriages among eye degenerates by giving our emphatic advice against such practices. We should also teach the general public the dangers of marriage with degenerates.

The family physician, as well as the public, should be impressed with the fact that inter-marriages of persons suffering from eye defects before mentioned is liable to result in disaster for thir off-spring.

MISCELLANEOUS

CHIROPODY—A NEW FIELD IN MEDICINE.

By Grace M. N. Ashton, M. D., Richfield Springs, N. Y.

During the fall the practice of chiropody passed under the jurisdiction of the Board of Rgents of the State of New York. Previous to this, for a decade or more, chiropody was in the hands of a board composed of the best known chiropodists of New York State. Candidates wishing to qualify as chiropodists were required to pass a written and oral examination in medical subjects as Anatomy, Physiology, Chemistry, Therapeutics, and Minor Surgery.

Under the new law, a certain number of High School counts representing various subects will be required and other requirements will be stated later, perhaps a college course. To chiropodists, who came under the old Board) and were able to present positive proof that they had been in practice for a certain number of years, a license was issued up to a certain date after this date all those who wished to practice were obliged to obtain a license by examination. Recently a college of Chiropody was organized in New York City and the faculty composed of many leading chiropodists in the city. Clinics were held on certain evenings, and students instructed in practical work. Some nine months were required for the course and preparation for the State Board. Besides this college there are several others in existence. One college was founded years ago by a pioneer in chiropody, his grandchildren still carry on his work in the shoe trade, and also conduct correspondence or local instruction. Five of the former members of the firm wrote a valuable work in chiropody which is perhaps the most valuable text-book of its kind in existence.

It is said of the other one or two of the so called schools that the course given was not of sufficient length or practical value to cover the ground required for the examination, and many parted with their money and graduates were not prepared to pass the chiropody examination. Then again many other chiropodists who were licensed by their years of practice only, and who had no knowledge of the questions asked or the nature of the examination were out for; "graft," and advertised to "prepare" students and charged exorbitant prices, and students parted with their hard earned savings and failed through the misrepresentations of these individuals. Again in the field of chiropody it would seem that the courteousness and hospitality is not extended that we find in the profession of medicine—in other words among the M. D.'s.

There are and have been for a number of years, some dozen small volumes on chiropody which would be of much value to students and even to practi-

tioners. Some of the books are in German, others in French, but the larger number are in English. But these books are never mentioned and their existence even denied, by interested parties and if a student asks if there is a text book on chiropody he is told to buy a copy of "Foot's Minor Surgery," and he will find all the information he desires. Even if the party questioned has all the chiropody books in his "den," he apparently for "graft" reasons of his own, and to sause the other party to fail at the State Board examination, recommends the above mentioned book which costs some $6.00, and treats principally on major operations of the foot—operations suited only for the surgeon.

The writer has come to the conclusion after an examination of said text book, that the only benefit it is to students of chiropody is that of financial contributions to Mr. "Foot." Incidentally it may be said the sale of this book helped the publishers and gave the owner the impression of course that he owned an expensive surgical volume written by Dr. Foot, M. D.—but of no value in his future treatments of the foot only as an ornament for a book case.

Like Optometry, Chiropody is now in the hands of the Regents, and a dicerent state of affairs will exist. The Regents will add dignity to this branch of medicine. Chiropodists are allowed the title of "Dr." and it is not unlikely that the degree "P. D." (Doctor of Pedis) will be granted by future schools.

Chiropody has been legalized in New York State and in New Jersey and California it is expected, will soon be added to this list. Other states will follow in time. A journal on chiropody is published in New York City and has a large circulation.

A national organization exists and in Chicago and several other western cities, local societies have been formed.

Chiropodists are as necessary for the health of the public as M. D.'s, D. D.'s., O. D.'s., etc. The suffering member of the human body is the foot, which is made to suffer torture by the so called civilized foot gear and thus bunions, corns, hammer toe, Morton's toe, callosities, deformities of toe nails, arch, etc. are the result.

It is not among the wealthy class that the chiropodist looks for his patients, but among all classes and conditions of life . The public has learned that a chiropodist is just as essential to the welfare of a community as the dentist, druggist, and oculist. All the leading hotels of large cities and permanent resorts employ chiropodists and he is not an idle factor on their hands on a good salary, but is well patronized.

Nearly all surgical text books of the medical profession give a surgical operation for in-growing toe nails which is radically wrong. The up to date chiropodist is able to treat this trouble in a far more humane manner and the results are more desirable and lasting.

It is seldom that an article on the feet is noted in medical journals. Two excellent articles on the care of the feet, written by an M. D. of Boston, appeared some years ago in the American Journal of Clinical Medicine. They were able and instructive papers.

It would seem that a mutual advantage could be gained by the reference of appropriate patients from an M. D. to a P. D. or vice versa as the case might require their particular service.

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In remitting kindly send by bank draft, post office money order, express money order or registered letter; if these methods are not available please send one-cent or two-cent postage stamps.

PRACTICE MADE EASY.

By W. F. Waugh, A. M., M. D., Chicago, Ill.

Novelty is evidence of advanced thought in Boston, good advertising in New York, undesirable innovation in Philadelphia, all these and a dozen others in Chicago.

"A Boston medical man,
A highbrow medical man,
An ultra persimmon on medical women,
A physical new-thought man."

If you mean to propose something new, and radically different, go to Boston. Begin by being born of New England stock, with the blood of Jonathan Edwards circulating in your veins so bluely as to dye your socks. Let your 'monicker' embrace a Shattuck, Warren, Holmes, Cabot, Chadwick, Sears, and a few other right peart downeast surnames. Live for a year on beans and codfish. Then go hire a hall, call in the reporters and 'let 'er go Gallagher.'

Dr. Percy E. Brown, a Harvard X-ray expert, tells us the happy day has arrived when the doctor may defy old Boreas and, safely esconced in his office from storm and sleet, feel his patient's pulse though miles away, by the aid of electricity. The patient merely places his hand in a basin of warm salt water and wires the current to a recording instrument on the doctor's table. Medical classes may observe the muscular action of a heart at the other side of the globe. Men contemplating the noble work of the medical missionary may study the peculiarities of heart-action in the Mongolian, Korean, or whatever race they may design illuminating. Possibly the lover may judge the effects of his billet-doux; the tailor that of his respectful plea for a small remittance; and the office-seeker make a good guess as to whether he incur the expense of a trip to Washington or stay home and get in his winter wood.

How nice, Brethren. Again, suppose the doctor's wife catches on to the thing. We suggest a necessary visit for the evening, she swiftly turns the current on and the palpitating hop of the ventricles tells of the poker game at Joe's—and we stay in.

We are not sure we welcome the Harvard man's suggestion. Wait till we know how far it is likely to lead.

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THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

By W. A. Gekler, M. D., Rockville, Ind.

The fight against consumption is being carried on along two general lines, namely, prophylaxis and treatment.

The early diagnosis plays a large role in both of these, for without diagnosis we canont segregate the tuberculous individual or carry on any rational treatment. The term "early diagnosis" really means the determination that an individual is tuberculous as soon as possible after infection has taken place. The autopsy records of careful observers show that practically 80 to 90 per cent. of the adult population have either healed, latent or active lesions in their bodies. Persons often carry around in their bodies for years tuberculous foci which go undetected either because they are not extensive enough to be found on careful examination, or because they cause no symptoms. In the population of our cities this universal infection has been shown to have taken place before the fifteenth year. These data, although collected from European cities, Vienna, Munich, Berlin, Zurich and others, will very likely without any modification hold for American cities also, because there is not much difference in the tuberculosis morbidity and mortality or in the hygienic conditions between the large

American and European cities. In addition to the autopsy records, extensive use of tuberculin as a diagnostic agent has given practically the same results. We have only to remember the work of the Austrian military surgeon, Franz, who found, on testing a large number of men that had passed rigid examination for entrance into the army, that 66 per cent, reacted positively to the subcutaneous injection of tuberculin.

Tuberculin is the only means we have for diagnosing this disease early and regardless of the location of the lesion. In order to diagnose every infection as soon as possible after it takes place, it would be ncessary to subject all the children annually to a tuberculin test until they react. Now, if we stick to the strict interpretation of the term "early diagnosis" and subject every individual in whom this diagnosis could be made to treatment, we would have from 60 to 90 per cent. of all persons over 15 years of age in sanitaria or under treatment at home at some time or other. Therefore instead of speaking of the "early diagnosis" we should do better to speak of the "accurate" diagnosis of pulmonary tuberculosis.

Before going on to mention the physical signs, their causes and significance, it were well to consider briefly the gross pathology of this disease, because there are certain definite laws governing the formation, growth and process of tuberculous lesions. In speaking of the pathology of pulmonary phthisis, we must also consider the mode of entry of the tubercle bacillus into the body because this determines the place and nature of the pathologic changes which take place in the lungs.

In this respect there are a number of conflicting theories, all of which have able and enthusiastic supporters and none of which has been universally accepted by investigators as the right one. There are the following possibilities, each of which has been advanced as the method by which infection takes place: first, direct infection by inhalation of tubercle bacilli into the lung tissue itself; second, ingestion of materal containing virulent bacilli with articles of food, absorption of bacilli by the latceals of the intestine, and eventual lodgment in the lungs, after having traversed the thoracic duct and gained access to the blood stream; third, infection of the tonsils or cervical lymph glands, and direct extension to the apices or to the bronchial glands; fourth, inhalation of bacilli into the bronchi, infection of the bronchial glands and extension into the lung tissue along the lymph channels, either by means of a retrograde lymph flow or in the form of an ascending lymphangitis.

The first mode of infection, the so-called aeroganeous mode, has its ablest exponent in Cornet of Berlin, who sacrificed almost 6,000 guinea-pigs and rabbits in his work to prove this. Koch, who discovered the tubercle bacillus, was also an adherent to this theory. It is the most logical and the most probable.

The second possibility, the intestinal route, finds many suporters among the English and American workers. Calmotte of France and his school brought this theory forward several years ago and are its most vigorous defenders. There is no good reason to believe that bacilli, in the majority of cases, are taken up into the body from the intestines, instead of gaining entry directly through a portal that is always open. Under unusual experimental conditions this mode of entrance has been demonstrated in animals, but these conditions will rarely, if ever, be met in the human subject. Experimentally it takes as nearly as can be estimated, 5,000,000 bacilli to infect a healthy guinea-pig from the intestinal

tract, where one or two will produce an almost fatal infection when injected under the skin, and where a very few when inhaled will produce this disease. Bacilli lodging in the lungs from the blood stream should show no preference for any part of these organs. This is clearly shown in general miliary tuberculosis, where the tubercles are distributed evenly in number throughout the lungs, whereas the chronic pulmonary tuberculosis almost invariably is restricted to the apices except where the disease is advanced.

It is impossible here to go any further into the details of the experimental work done along this line. In this connection it is interesting to note that Villaret of Paris in 1862 claimed that particles of dust find their way into the lungs in this manser to produce anthracosis. In 1884 Mendelsohn remarked, in a work on the relation of traumatism to tuberculosis, that this theory of Villaret's, which could also be advanced to explain the mode of entrance of tubercle bacilli into the lungs, had long been discarded. Arnold of Heidelberg, in 1885, in a classic monograph on dust inhalation, once and for all proved the fallacy of Villaret's statement.

The third possibility has its most enthusiastic adherent in Aufrecht of Magdeburg. The anatomical, pathological and experimental researches of Most and Beitzke have, however, shown that there are no connections whatsoever between any of the cervical or peritoneal lymph channels and the lungs or bronchial glands. This mode of infection is therefore anatomically impossible.

The fourth possibility is so nearly like the first one that a discussion of it really belongs to that of aerogenous infection. It is only recently that the importance of the bronchial glands began to receive proper recognition, and this largely as the result of the roentgenological observations of the past few years.

Now why do the tubercle bacilli show such a marked preference for certain parts of the lungs? and what are the parts most often affected in the beginning of this disease? We know from the investigations of pathologists that the small lesions almost invariably found in every adult body at autopsy are most often in the upper posterior median line of the right lobe. The tip of the upper lobe, the true apex, is not so often the seat of these small lesions. Very often, of course, one finds small hard nodules, the remains of healed and later calcified tubercles, in other parts of the lungs, especially near the hilus, the so-called kernel of the lungs.

Freund in the early fifties made the statement that a deformity of the upper thoraccic aperture, caused by ossification of the cartilage of the first rib, interfered with the ventilation of that part of the lung which protrudes through it, and that this predisposed to an infection at this place. In recent years Hart did a large amount of pathological and roentgenological research to support this theory. Although there is a degree of truth in this statement as we shall see later on, the thorax paralyticus is not found often enough to explain the immense number of apical lesions with which we have to deal.

Birsch-Hirschfield found, by making careful observations in several thousand autopsies, a number of cases in which there was a lesion in the mucous membrane of the bronchus apicalis posterioris, or in the lung tissue immediately surrounding this bronchus. He argued that the sharp angle this bronchus makes where it joins the main bronchus on the right side, was in some way responsible for the lodgment of the bacilli in this place. We know that the corresponding bronchus on the left

side joins the bronchus at a much more obtuse angle than the right.

Schmorl was able to demonstrate a depression in the lung where it touches the first rib, in a number of cases, and believed that this interfered with the circulation at this point and thus predisposed to an infection. This finding of Schmorl's gives support to the theory of Freund and Hart.

Tendeloo, in a most interesting series of studies into the causes of diseases of the lungs, evolved some ingeious theories which are probably the most nearly correct of al of them. He showed that the rapidity of the blood and lymph circulation depended directly on the degree of mobility of the different parts of the lung. That is, the lateral basal portions are the most mobile, whereas the peravertebral apical parts are the least movable, in the movements of respiration. Therefore the circulation of blood and the flow of lymph toward the bronchial glands is slowest in the paravertebral apical regions. He held that in the parts where the flow of blood and lymph is rapid the bacilli are washed into the bronchial glands and there either destroyed or held latent. It is a fact that, now that attention has been called to these things, other men are reporting findings which confirm Tendeloo's opinion.

If the bacilli are inhaled directly, and a place found where they can lodge and multiply, or if they are deposited on the mucous membranes of the bronchi, find their way into the bronchial glands and from there get into the lung tissue, it is most invariably the rule that they get into the least movable parts of the lung to cause disease. Of course, this refers to the ordinary chronic pulmonary consumption of adults, and not to tuberculous pneumonia, miliary infections of the entire lungs or of any one part. Further, when extension takes place the processes extend, except where sputum is aspirated into the lower lobes, along the line of least resistance; that is, into the less movable parts. I mysef made a series of investigations extending over a year and a half with a large autopsy material at my command, and found nothing which could in any way disprove this theory.

It is absolutely important to bear these facts in mind because they determine the places in which we must expect to find lesions, and the manner in which we shall go about making our physical examination. We must remember, too, that only the cortex of the lung, that is, to a depth of about 2 or 3 centimeters below the surface, is accessible to our physical examination.

The point at which the largest number of cortical lesions is found at the autopsies is at the upper median posterior portion of the upper lobe of the right lung. Therefore, our examination must be so carried out that the area along the spinal column, at the level of the first to the fourth dorsal vertebra, can be most carefully gone over and compared with the other parts. I prefer to begin at a point where I am reasonably sure of finding normal conditions, that is, at the base of the lung toward the axilla, and then go slowly up to where I might find pathological conditions. In percussion no two thoraces have the same normal tone, and without knowing what the normal is we cannot by comparison expect to detect any slight abnormalities.

I usually examine the back first, percussing from the lower border of the lung upward. Having ascertained the lower limit of the dulness or impairment of resonance at two or three points, I percuss from the outside toward the spinal column and outline the area lateraily. By doing this I do not miss any abnormal conditions such as pleuritic scars, etc., which sometimes are found at the bases. It might also

be in place to remark here that in normally formed chests a beginning tuberculous lesion of any size except a tuberculous pneumonia or a pleurisy is never found at the base of the lungs. During the examination I find it of great help to have the patient sit with his hands on opposite shoulders, elbows as closely together as possible, and with the head and shoulders bent forward. In this way the scapulae are rotated outward and got out of the way.

In regard to the technic of percussion., I have found it best to lay the pleximeter finger rather firmly on the surface of the body, and then use a grade of percussion that ranges from very light to moderately heavy.

Many men hold that in order to practice the so-called deep percussion it is necessary to percuss very heavily. I have found that with moderate percussion and rather firm pressure of the pleximeter finger any lesion accessible to physical examination can be brought out. Deep-seated consolidations unless of very great extent cannot at all be demonstrated by physical examination.

The shortening of the apical isthmus first described by Kroenig is by this method of percussion not so apparent in the beginning lesions. It is only after considerable scar tissue formation with its subsequent contraction, has taken place that this shortening is apparent. This apical isthmus, it should be remembered is a projection onto the surface of the width of the lung where it passes through the upper thoracic aperture. Cases are occasionally found which show physical signs at the level of the second or fourth dorsal vertebra, in which the apices are still free and the apical isthmus is normal in extent. I believe that these are the earliest lesions we can demonstrate by physical examination.

(To be Continued.)

PRACTICAL POINTS IN OBSETRICS

By W. T. Marrs, M. D., Peoria, Ill.

The practice of obstetrics is not an easy one. Aside from the physical exertion, loss of sleep, loss of meals and other discomforts on the "somatic plane," as our psychological friends might call it, there is a mental stress and strain that is calculated to bring gray hairs rather prematurely. Obstetrics is a fairly renumerative branch of practice, although the worry and responsibility of it is a matter that physicians take upon themselves with reluctance. I think much of the unpleasantness of it all can be eliminated if we take more real interest in the work, keeping well prepared and equipped to meet all emergencies or untoward conditions that may arise, and above all in giving attention to details and the little and seemingly inconseqnential things.

The textbooks give ample space on the obstetric technique and the difficult phases of labor, and this is all well and good; but very little is given to the homely little things which are very useful to know but which wouldn't look dignified in a scientific work. For obvious reasons, hand-to-hand experience is what counts most in the practice of obstetrics. Again, a textbook must necessarily be conservative and patter down a conventional scientific path, condemning or approving things in a manner that will bring down upon the head of the author no adverse criticism.

Now, for example, did you ever read an article in a journal or a book, or ever hear a lecture on the subject of obstetrics where ergot did not get a fall taken out of it? We know that indiscriminate use of ergot is bad; it produces—sometimes—chronic contraction and does not promulgate the labor along the lines that nature usually works upon. Result, sometimes a lacerated peritoneum, or a baby jammed into the lower segment of the uterus

times a "busted womb." Many more things may happen, but any of these is enough. But even the worst of these or the mildest do not always happen. For many years I was in touch with an old practitioner of the old, old school who gave ergot in tablespoonful doses for the purpose of stirring up tardy labor pains. Criminal, yes almost so. But this old shyster had excellent success and in the rural practice seemed to discount all the more up-to-date doctors. Ergot in full doses brings on volcanic pains and usually terminates the labor in some way in a short time. It is bad practice to give full doses or ergot ordinarily, for much harm may accrue from it. At the same time, it is more conservative than putting on forceps and by main strength and awkwardness dragging a babe through a parturient canal, lacerating the maternal soft parts and cutting and bruising the infant head.

Between the lines you may be reading that I am encouraging ergot in obstetrics. I am not. I want to play fair, however, and give this old drug a square deal. Formerly all practitioners used it to initiate or promote labor. They overdid it just as they did calomel and many other drugs. Ergot fell from grace; it is still down. And yet I am of the firm conviction that it has a place in labor in properly selected cases. Small doses do not act like big ones. Get that. Small doses of ergot act as a tonic to the uterus and are not dangerous. It is indicated only in cases where the pains are ineffectual and the general indications are that nature is going to quit the job. Ten, twenty or thirty drops may be sufficient If the parturient canal remains clear as in multipara who have borne a number of children, larger doses may be given. Do not give ergot unless you fell that it is necessary. I would say the same regarding forceps, Caesarian section, turning and every other important step in the acocuchement role. Ergot should be given cautiously, to be sure, and seldom to primipara at all. Yet I have given small doses of ergot, ten to twenty drops, to women in their first confinements, always with good results and never anything untoward. On one occasion another physician and I debated the matter of doing a high forceps operation on a primipara who had been in labor 48 hours and whose pains had played out. He was an up-to-date practitoner and when he said: "Let's try a stiff dose of ergot; if the perineum is lacerated we can repair it," I readily acquiesced. The result was that the labor was all over in an hour, every think O. K., and the family wished that this consulting physician had been called in sooner.

As I started out to say, we should give attention to small matters if we would gain the best measure of success in the obstetric art. See that the woman's rectum is emptied. Labor can make little progress with a full, painful rectum. And if it does happen to progress —you know the rest and how it fills your soul with disgust, altho you play that you "don't mind such things the least little bit." The doctor must keep sweet, whether the situation be likewise or not. A syringe is always a good thing to have in the bag and one seldom makes a mistake in seeing that the bowels are empty at the onset of labor.

Here is a valuable agency in facilitating slow labor. A pediluvia kept up for a half hour aided by drinks of hot black coffee, hot lemonade, hot ginger or hot pepper tea will often set the course of a tardy labor into the right channel. The sitz bath is one of the best of all measures for facilitating a labor that is inclined to lag. It should not be done in a half-hearted manner but must be carried out energetically for an hour. The patient should sit in the bath with the water as warm as can

be borne and additional hot water should be added a pint or a quart at a time, not permitting the bath to cool. A sheet or robe should be thrown over the woman to retain the heat and hot drinks should be sipped all the while.

When there are no contra-indications for so doing the patient should remain on her feet in an upright position until the labor is well advanced. The dynamics of the uterus are aided by the cephalic pressure and increased hypostatic congeston afforded by the upright position. It pays as a rule to keep the woman stirring. On the other hand everyhing is a trifle uncertain with a woman in labor—as well as a woman not in labor—so sometimes the pains do not get down to business until she has taken her bed. The mebranes ordinarily should not be ruptured by the accoucheur, but there are cases in which an abundance of amniotic fluid prevents the head from engaging and in such cases the labor may be wonderfully expedited by rupturing the membranes and draining off the water. In any case of tardy labor in which the membranes seem to be servng no good purpose I rupture them and invariably find the reults to be gratifying.

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THE COLLEGE MAN ON THE FARM

One of the most momentous evidences of progress in civilization is the conquest of the farm and farmer by the scientific agricuturist. Heretofore the "book-farmer" has been a joke, the subject of unlimited bucolic merriment but the farmer himself has changed. He is now a college man himself, and qualified to appreciate the value of education.

The influence of the Department of Agreulture has become notable, and its publications are valued more every year and receive larger circulation. The states seem to have realized that a college education does not imply a profession necessarily, but that any vocation may be followed more profitably by the man who possesses a general mental development. The agricultural colleges receive more enthusiastic support than any other educational departments, and are attended by an increasing number of pupils. The winter course of the New York school at Ithaca on October 20 had more than fifty applications from farmers for enrollment. The course covers general agriculture, dairying, poultry husbandry, horticulture, and home economics.

Crops: Alfalfa is a good-paying crop. Sugar-beets give a rich return for labor and cash expended. Onions yield fabulous profits per acre. The big red apple of the Northwest is a mint. One cherry-tree in Seattle bore one thousand pounds of fruit one season; and they plant one hundred trees to the acre. Michigan raspberries net one hundred and fifty dollars per acre if there is water enough to plump out the fruit. Mushrooms sell here today for eighty-five cents per pound.

The National Druggist for November last quotes drugs at these prices: Alder bark, 22c.; apple bark, 30c.; mountain ash, 28c.; prickly-ash, 85c.; elder-berries, 40c.; poke, 25c.; elder-flowers, 40c.; red rose, $ .25; violet, $1.25; boneset, 25c.; goldthread, $1.75; belladonna leaves, 50c.; digitalis, 30c to $1.25; plaintain, 30c.; ginseng, $10.50; golden seal, $6.25; poke-root, 20c.

Take the last-named—not hard to raise—and we get a value of four hundred dollars a ton. Not that the collector could get the retail price—but either there is room for a handsome profit on it or else the wholesale drug trade is doing very well indeed.

Should you care to cultivate ginseng at $21,000 per ton, or golden-seal at $12,500, you need not worry over your market—it takes all it can get and asks for more.

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ORIGINAL ARTICLES are solicited from our readers. We wish articles which are sent us to be contributed exclusively to this magazine. We will send the writer of any original article, if desired, twenty-five extra copies of the number containing the article. We are also willing to send copies to the professional friends of the author.

LETTERS, CASE REPORTS AND QUESTIONS are desired for our Discussion Department.

We are not responsible for the opinions expressed by our contributors. We are glad to publish all sides of questions of interest. We publish many communications with which we do not agree.

Reports and items of interest are gladly received.

VOL. 15 DECEMBER, 1912 No. 12

SOME WAYS IN WHICH SOME DOCTORS ARE UN-ETHICAL.

Doctors are "chumps" so far as their relations with men in a business way are concerned.

While we can cordially approve of the willing pecuniary sacrifices made by physicians universally, in furthering the amelioration of the dire effects of the unsanitary and unhygienic mode of living formerly so common, from purely altruistic motives, there is, or there should be a limitation of these efforts on a charity basis exclusively.

In their zeal to use their knowledge for the public welfare, doctors have come to be considered legitimate prey by individuals, corporations and municipalities; who expect to secure their services at a greatly reduced rate or gratis as the case may be.

Radical reforms along this line should be immediately instituted and rigidly enforced. That this can be accomplished is proven by the quick work done in disposing of the contract practice for reduced ad often ridiculously low fees, in connection with lodge and society membership. When the County societies declared this practice to be unethical it rapidly and permanently disappeared. Making offenders of this or any other kind ineligible for new membership and dismissing them from present membership unless they cease all practices which the medical societies have declared to be unethical, will be a potent means of controlling the most of those who might be tempted to violate these reasonable and necessary ethical rules. No other profession has ever been, or is now so willing to cheapen their services and barely eke out an existence, when with the use of even a modicum of business sense they might get a reasonable renumeration for the use of their time and skill and not be compelled to injure the quality of their work by trying to do a sufficient quantity at reduced prices to make up for their utterly inexecusable folly in working for an unappreciative public at much less than the real value. Sensible physicians shoud unitedly demand a better supervision of the free clinic evil, that the really deserving poor may not be pushed aside by those who are falsely pretending to be entitled to this service.

Admitting the necessity of this aid to Medical teaching, not quite so important now as it formerly was, because of the almost universal practice of accepting some one of the many opportunities afforded for positions in hospitals ,now sufficient in number to give a place to nearly every graduate, a smaller number of patients, with each

case most thoroughly examined and cared for would give better results than is always secured by giving scant attention to a larger number. Many of those receiving free treatment in this way could pay some struggling physician in the vicinity a fee for the needed attention and retain more of his self-respect, as will the clinician in charge, for not lending his position as a cinical teacher to aid in the deliberate attempt at deception made by the applicant for free treatment. We are speaking from personal knowledge, as we served in the position of a clinical teacher for a number of years and have seen many phases of the situation we are referring to. The medical college and other free dispensaries are imposed upon most shamefully and a continuance of this form of imposition ought not to be permitted.

The new 'liability laws'' are designed for the purpose of helping to change these conditions and to systematise improved plans for caring for the injured in factories and places where the employees are subject to increased danger of sustaining injuries. The greater number of private hospitals and the better facilities they are affording for the care of the sick and injured for a very reasonable price make it possible for any physician to have his patients removed to one of them and have them cared for in a better and more economical way than can be done in their own homes.

To be willing to do our proportionate amount of charity work for those who are really deserving of it, is commendable, but this need not be any considerable amount because no one should expect it, if unable to pay, there should not be any hesitancy about accepting the care provided by the City, County or State. Again doctors ought to demand that unavoidable service which is rendered to the poor at their homes, be paid for at full prices for work performed.

The lawyer is paid for conducting the defense of even the most brutal and debased poverty-stricken criminal. Why not pay the doctor his fee, too? To secure the supposed benelt to be derived from the advertising, staffs for hospitals and dispensaries are easily organized anywhere, giving many hours of their time in attendance and using their best skill in the interests of people, oftentimes able to pay for them, for nothing, holding these clinics open and free to all who may come wthout any inspection of the financial ability of clinical patients whatever.

"We would like to suggest that every county, state and national medical society go on record as condemning and regarding as unethical any member of those bodies accepting service under the city, county, state or nation, without adequate and proportionate compensation for the service ordered. Such action by these recognized associations of the leaders of the profession would go far toward elevating the standards of the medical profession and would command the hearty support and commendation of the self-respecting and high-minded citizens of every profession and vocation in the land. It is simply a matter of concerted action which must carry by the force of right and justice."

(W. A. N. D.)

Please let us know whether you agree or disagree with the premises and conclusions herein briefly stated.

It is the truth that we wish to discover and portray in relation to this matter and we want the help of every reader in establishing what the truth is and also in inducing the medical societies to adopt and enforce the suggestions offered, if they are finally judged to be wise and timely ones.

J. V. S.

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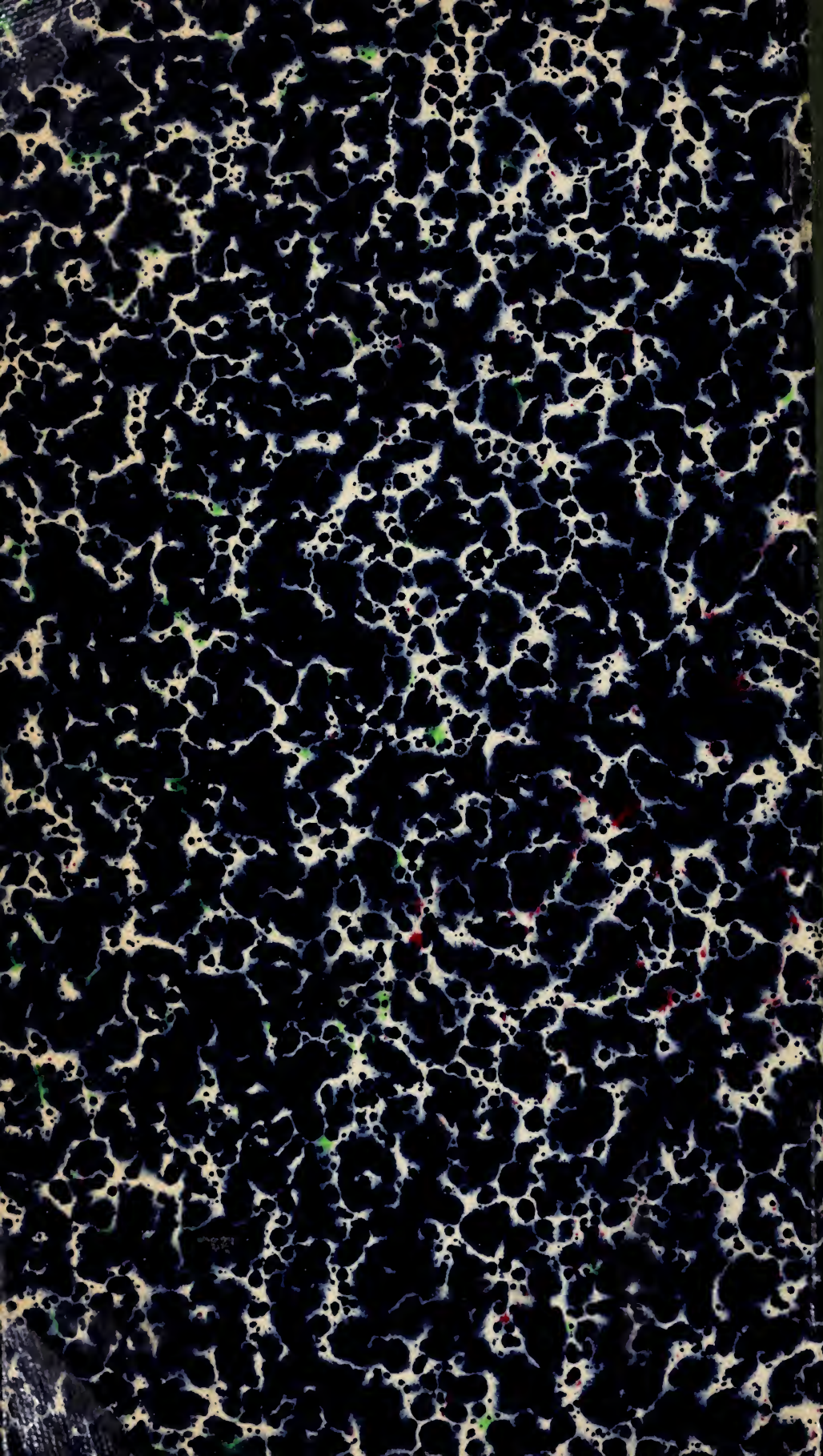
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